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Regular Edition

Vol. XC. DECEMBER 1, 1906. No. 1614.

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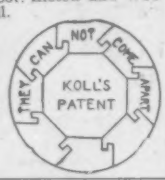

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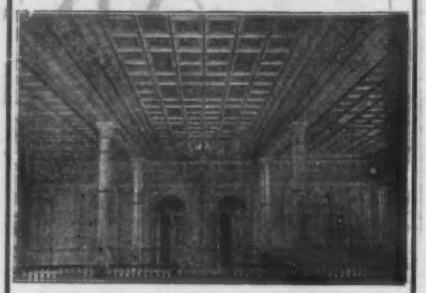

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Vol. XC. SATURDAY DECEMBER 1, 1906. No. 1614.

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BUILDING NEWS.

(The editors greatly desire to receive information from the smaller and outlying towns as well as from the larger cities.)

ALBANY, N. Y.—It is reported that plans are on foot looking towards the erection of a State hospital at Comstocks, Washington County. This hospital to cost $1,000,000.

ARVERNE, L. I.—Thomas A. Roachford, it is stated, is planning the erection of a large hotel here, to be of fireproof construction, and estimated to cost $500,000. The hotel to be located between Straiton and Storm Avenues.

ATLANTIC CITY, N. J.—Solomon Greenberg, of Philadelphia, it is reported, will erect in this city a modern fireproof hotel, at a cost of $400,000. It is to be a six-story brick and stone building.

Press reports state that plans have been prepared by Architects Seymour & Paul A. Davis, Philadelphia, for the erection of the Atlantic City Hospital. Estimated cost to be $75,000.

AUGUSTA, GA.—Louis F. Goodrich has

completed plans for a three-story brick hotel to be erected by L. J. Williams on a site recently purchased. Cost, about $50,000.

AVALON, PA.—Architects Allison & Allison, Westinghouse Building, Pittsburg, have prepared plans for a stone church for the U. P. congregation, Avalon. Address the architects.

BALTIMORE, MD.—Reports state that a $100,000 Catholic church will be erected at Roland Park.

The Maryland Biscuit Company has commissioned Simonson & Pietsch to prepare plans for a six-story addition to be erected at Charles Street and Welcome Alley, 52x165 feet.

BATTLE CREEK, MICH.—Architect Wilbur Mills, Columbus, Ohio, it is stated, has completed plans for an edifice to be erected for the Methodist Episcopal Church, to cost $40,000.

BOSTON, MASS. — Architect Luther C. Greenleaf, 101 Tremont Street, is preparing plans for an eight-story cold storage plant, 100x160 feet, and a two-story powerhouse, 40x100 feet, for a syndicate, care of architect. Cost, $525,000.

It is probable that the plans for increasing the facilities at the court house which are being prepared by the consulting architect, R. Clipston Sturgis, will be submitted to the Court House Commission in December.

BOWLING GREEN, KY.—It is reported that the General Bowen Baptist Association is arranging to erect a $50,000 industrial school. E. Robinson, Chairman Board of Trustees.

BRONSON, TEX.—The School Board has decided to issue $220,000 bonds for school purposes.

BROOKLYN, N. Y.—R. Napier Anderson, 63 Fifth Avenue, Manhattan, is taking figures on alterations and the erection of a seven-story, reinforced concrete addition, 40x60 feet, to the cold storage building on Wilson street, near Wythe Avenue, Brooklyn, for the Brooklyn Cold Storage Company.

Abraham & Straus, of 420 Fulton Street, Brooklyn, will begin at once the erection of a new fireproof mercantile building, six-story, 150x170 feet in size, to be situated at Schermerhorn and Livingston Streets, Brooklyn. George L. Morse, 303 Washington Street, Brooklyn, is architect, and is now ready for figures on the general contract. No contracts have yet been issued.

Reports state that Robert Gair will expend $125,000 in the erection of an eight-story warehouse, 231x100 feet, at the northeast corner of Washington and Front Streets. Architect, W. Higginson, 21 Park Row, Borough of Manhattan, has plans.

Plans have been prepared for two five-story brick stores and tenements to be erected at Myrtle and Sumner Avenues. R. T. Rasmussen, architect, 30 Graham Avenue. Cost, $100,000.

Bids will be received until December 6 by the Park Board (Moses Herrman, President, New York City) for furnishing material and erecting shelter houses in Fulton, Winthrop, and New Lots Parks, Borough of Brooklyn.

Woodruff Leeming, 20 Broad Street, Manhattan, is ready for figures on the general contract for an addition to the Grace Presbyterian Church, Stuyvesant and Jefferson Avenues, Brooklyn, to cost about $50,000.

Plans have been filed for a brick church, to be erected at Fifteenth Avenue and Seventy-third Street, for the Church of Our Lady of Guadaloup, at a cost of $30,000. Helmle & Huberty, 190 Montague Street, are the architects.

Press reports state that final plans have been adopted for the new Central Station which the Brooklyn Rapid Transit is about to erect on President and Carroll Streets and Nostrand Avenue. The building is to be of fireproof construction, and the estimated cost is to be $500,000.

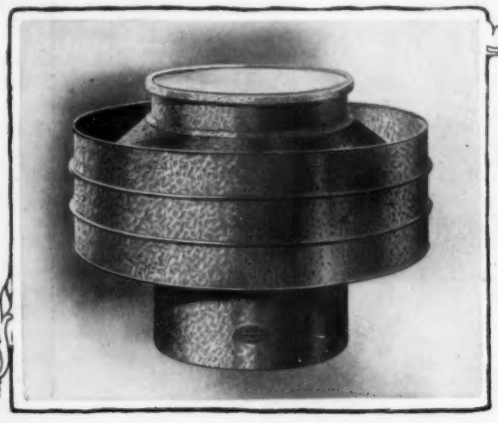
BUFFALO, N. Y.—William H. Hotchkiss, it is stated, has plans ready for a five-story brick block to be erected on Washington Street at an estimated cost of $75,000.

BURLINGTON, IA.—Plans are on foot looking toward the erection of a modern hotel building, to cost $200,000.

BURLINGTON, VT.—The Burlington Free Methodist Church bought property on Elmwood Avenue on which to build a new church and parsonage.

CHICAGO, ILL.—E. B. Shaw, it is stated, will build a three-story apartment house at Ashland Boulevard and Van Buren Street, at a cost of $100,000. It will be 100x150 feet. Marshall & Fox, architects, First National Bank Building, prepared the plans.

A store and apartment house will be erected at Lincoln and Belmont Avenues, from plans and specifications by Architect H. Wittekind, 85 Dearborn Street. Designs



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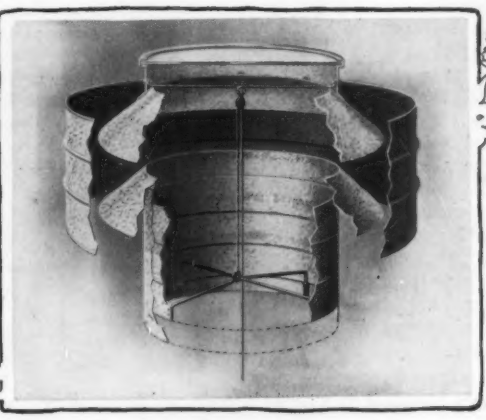

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Architects Burnham & Co. are taking bids on a warehouse to be built on Michigan Street between Kingsbury and Orleans Street, for the John Mohr Boiler Works, 42 Illinois Street. It will be ten-story, 100x92 feet, of fireproof construction, have cut stone and terra-cotta exterior, composition roof, galvanized iron globe ventilators on roof, and cost $100,000.

The Oliver Typewriter Company, it is stated, has secured a site on Dearborn Street, on which it is proposed erecting a five-story fireproof building, to cost $150,000.

It is reported that new buildings to cost $58,000 are contemplated at the Lake Forest University.

F. V. Newell, 78 La Salle Street, is preparing plans for an apartment house, to be built at Evanston Avenue and Crescent Place, for E. L. Heagstedt. It will be three stories, pressed brick and stone fronts, and cost $80,000.

The George A. Fuller Company, Marquette Building, it is stated, has secured the contract to erect a ten-story building on Franklin and Congress Streets, for Kohn Bros., at a cost of $250,000.

A new theatre is to be erected on Clark Street, just south of the Grace Hotel, at a cost of $150,000. The building will be 75x100 feet.

Cincinnati, O.—The management of the Munro Hotel, it is stated, intends making improvements to the hotel which will cost about $50,000.

Plans have been accepted by the Empire Circuit Company for the erection of a theatre at 142-48 West Madison Street, to cost $125,000. S. N. Crowen, 85 Dearborn Street, is architect.

Cleveland, O.—The members of St. Stanislaus R. C. Church, it is stated, intend erecting a $60,000 school at Forman Avenue S. E. and East Fifty-eighth Street.

Bids will be received until November 28 by the Board of Trustees, Cleveland State Hospital (Dr. A. B. Howard, Secretary) for furnishing material and erecting an industrial building at the Cleveland State Hospital. Frank L. Packard, architect, Hayden Building, Columbus.

Architects Blackall & Page, 1135 Schofield Building, are preparing plans for the new Forester's Temple, to be erected on East Fifty-fifth Street, near Euclid Avenue. It will be six stories, 90x106 feet, constructed of reinforced concrete and steel. Cost, $130,000.

Architect W. B. Mead, Garfield Building, it is stated, has prepared plans for the Mittleberger School, to be built off Euclid Heights. It will have steam heat, four stories, and cost $60,000.

Architect Milton Dyer, 801 Cuyahoga Building, is preparing plans for a new Presbyterian church, to be erected at Wade Park and Madison Avenue. Cost, $50,000.

Plans are on foot, it is reported, looking toward the erection of a new hospital in this city, to cost $1,000,000.

Reports state that plans for the new Foresters' Temple to be erected on East Fifty-fifth Street, near Euclid Avenue, have been prepared by Architects Blackall & Page. The building will be six stories high, of reinforced concrete and steel construction, with pressed brick facing.

The Eldridge & Higgins Company, it is stated, is arranging to erect a nine-story business building.

Columbia, S. C.—D. G. Zregler, 800 National Loan & Exchange Bank Building, it is stated, proposes to erect a cement block manufacturing plant here at a cost of about $50,000.

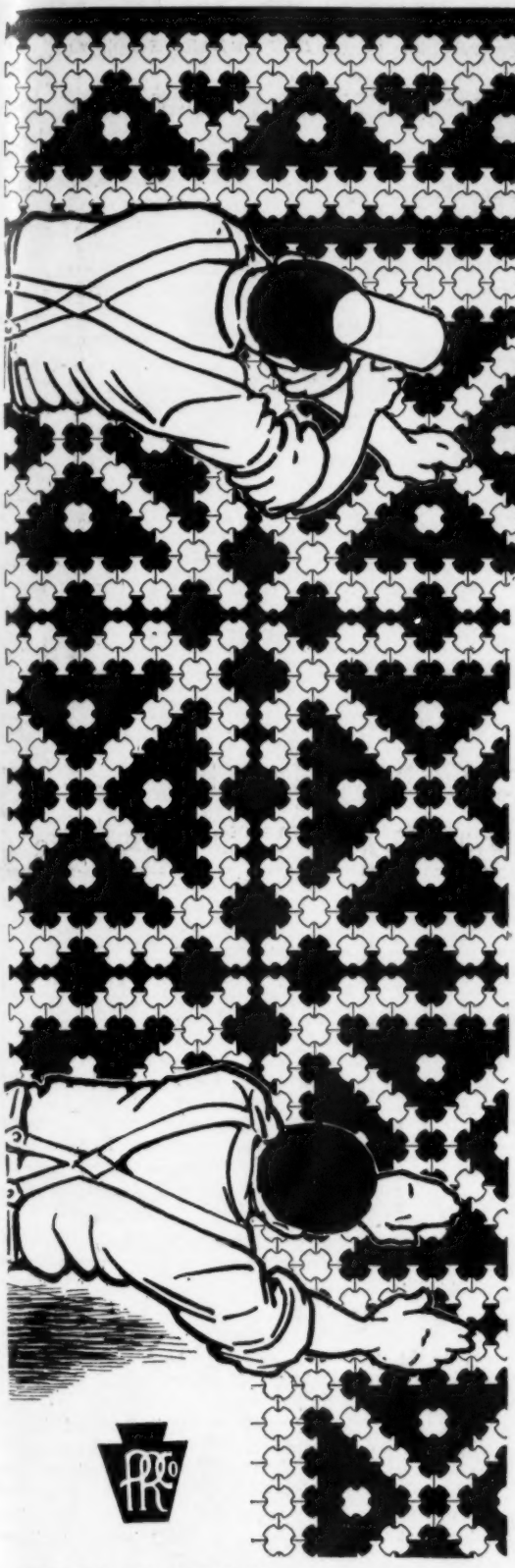
Columbus, O.—T. L. Calvert, Secretary State Board of Agriculture, writes that all bids opened on October 29 for erecting the amphitheatre on the State Fair Grounds have been rejected as being too high, and new bids will be received. Architects, Linthwaite & Holbrook, State and High Streets.

Plans have been prepared for the $100,000 Military Hospital, to be erected on the Columbus Barracks. The building is to be brick with stone trimmings and slate roof.

Cordele, Ga.—Bids will be received by S. W. Coney, ordinary, about January 1 for the erection of a two-story court house and jail for Crisp County. Cost, $80,000. Plans are being prepared by Architects Lockwood Bros., Columbus Investment Building, Columbus, Ga.

Duluth, Minn.—Architect J. A. Wagenstein, 401 Providence Building, will prepare plans for the erection of a new court house. Estimated cost, $500,000.

The Duluth Elks propose to erect a club house to cost $120,000. It will be seven-



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story, and will be located on First Street adjoining the Board of Trade Building.

George H. Lounsberry, it is stated, has been awarded the contract for the erection of the Y. M. C. A. Building, at $120,000.

Dunkirk, N. Y.—The Board of Supervisors of Chautauqua County has approved plans for the court house to be erected here. W. J. Beardsley, of Poughkeepsie, is architect. Estimated cost, $135,000.

East Cleveland, O.—The citizens, it is reported, have voted in favor of issuing $50,000 school bonds.

Edmonton, Alta., Can.—It is stated that competitive plans will be received until December 1 by A. Butchart, for a hospital, to cost $75,000.

Eloise, Mich.—E. Wildman, Butler Building, Detroit, Superintendent of Poor, writes that the proposed asylum to be erected at Eloise will cost $75,000. Architect not yet selected.

El Paso, Tex.—The question of issuing $150,000 school bonds is being considered.

Evansville, Ind.—It is stated that the Sisters of Providence have ordered plans prepared for a $100,000 academy, to be erected in this city.

The Directors of the American Society of Equity are said to be contemplating the erection of a ten-story office building here. E. Q. Lockyear may be able to give further information.

Fisherville, Ky.—Reports state that the erection of a $100,000 hotel is being considered by Clarence C. Hialt, Louisville Trust Building, Louisville, Ky.

Fostoria, O.—Plans have been prepared by Architect Arland W. Johnson, Toledo, O., for the erection of a hotel and theatre for C. C. Anderson. Cost to be $75,000.

Ft. Snelling, Minn.—Capt. William D. Davis, Constructing Quartermaster, has been authorized, according to reports, to take preliminary steps for the erection at Ft. Snelling of a veterinary hospital, shops, quartermaster's stable, and suitable quarters for civilian attendants. An appropriation of $50,000 has been made for this work. All the buildings are to be of brick, and it is reported that bids for the erection will soon be asked.

Gardiner, Mont.—It is reported that the Yellowstone National Park Transportation Company will erect a new hotel at Mammoth Hot Springs, to cost $500,000, next season. R. C. Reamer, architect, San Diego, Cal. The Canyon Hotel is also to be remodeled and enlarged.

Grand Rapids, Wis.—The Grand Rapids Furniture Company has been formed, to establish a $50,000 factory.

Green Bay, Wis.—Competitive plans will be submitted by architects, to December 10, for the proposed new West Side High School Building; it will be of brick and stone.

Gulfport, Miss.—At a meeting of the Masons of Gulfport, it is reported that over

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$50,000 was raised to erect a Masonic temple, opera house and office building in this city. The structure will be nine or ten stories, and will cost from $150,000 to $200,000.

Hamilton, Ont., Can.—The Canadian White Company, Montreal, has been awarded the contract for building the Union Electric Railroad Station for the Cataract Power and Traction Company. The station will be 112x72 feet, four stories high. Estimated cost, $225,000.

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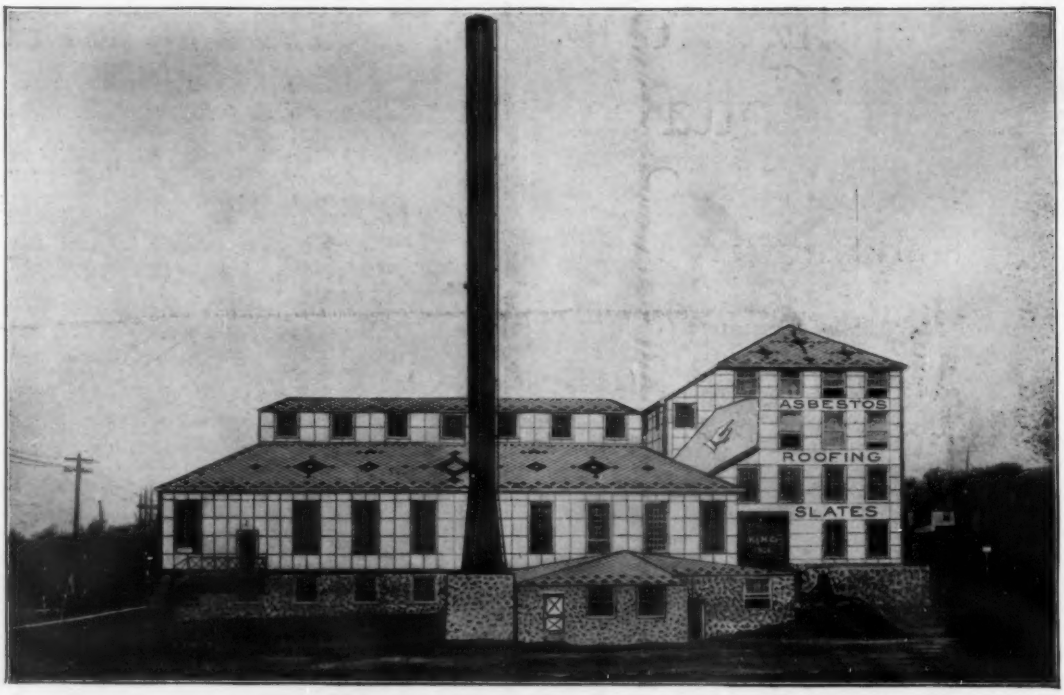

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SOCIETIES, PERSONAL MENTION, ETC. . . . . iv.

THE writer has a fancy that during the more than thirty years he has been engaged in the conduct of this journal he has given quite as much thought and study to the matter of architectural competitions as has the friend who recently sent in a good-natured message that unless the *American Architect* ceased urging the merits of the "compound" competition, he would stop his subscription. Even the receipt of numerous similar admonitions seriously administered would hardly cause us to abandon our advocacy of a method of whose equitable merits and practicability we are so strongly convinced, and it is more than likely that, on proper occasion, we shall, with more or less frequency, rehearse the advantages of this form of competition and urge its general adoption. It is to be remembered that our interest in the matter is active only in so far as the expenditure of public funds for the erection of public buildings is concerned. We have little inclination to interfere with the right of private contract, and do not seek to prevent the individual from securing his architectural design by direct selection of an architect or through any form of competition that may commend itself to his judgment. But the public's right to secure with the public funds in the most certain way the best result that can be evolved by any architect, anywhere, willing to attempt the solution of the problem, seems to us incontrovertible. Having this strong feeling, it is distinctly a satisfaction to find it shared by the newly-elected President of the Royal Institute of British Architects, who in his annual address declares it to be his belief that *"it is to the interest of the public that a competition should be instituted for every proposed public building of importance."* It is to be observed, of course, that his opinion, like our own, is predicated on the assumption that the programme is properly conditioned.

POSSIBLY it is not for the interest of the elders of the profession, the "leading architects," the men who have "arrived," that the "compound" or any other, even the most strictly limited, form of competition should be adopted, since in the case of direct selection there is obviously the greater chance that the promoter will select from the few men who are popularly known as being at the top—to the manifest personal advantage of such leaders. It is not strange that the ardent advocates of the direct-selection method should be found amongst the few at the top rather than be discernible in the ranks where the majority of the practitioners are to be found, and it should be well worth the while of the majorities in the architectural societies to debate the question long and deeply before they allow themselves to endorse and recommend by formal action the theory of direct selection, knowing that such action, while it must abate their own opportunities, must aggrandize in still greater degree the opportunities of the men at the top, and knowing, too, that some of the men most widely known have attained their position through following the business methods of the shrewd advertiser rather than by reason of artistic ability. The returns that rightfully belong to the successful man accrue naturally and sufficiently: it is illogical that majorities, at their own cost and to their own damage, should magnify the opportunities of the few by giving official endorsement to the theory of direct selection in the case of public work.

IT is disappointing for one who has struggled to the top to find that he must keep on struggling and not be able to take his ease and pick and choose in a lordly way, but such struggling is not confined to the walks of architecture. It is humiliating, doubtless, for the acclaimed belle of several seasons to find her vogue suddenly eclipsed by the fresher charms and more piquant vivacity of a mere débutante, and in the same way a successful architect who has entered a competition for a public job, which he secretly believes ought to have come to him because of his reputation, must feel intense chagrin at finding the award go to an unknown man of half his years; but that is the law of life everywhere. The assumption that the best work is invariably done to private order or after direct selection is not borne out by the facts. Everyone knows that the important element of a design is the germinal conception and that is as likely to flash upon the designer when considering a competition programme as when mulling over the requirements of an individual client. Considering that most work is executed to private order, is there not a lamentable paucity of masterpieces around us? Mr. Collcutt, to whose address we have already referred, declares his belief that it "cannot be said with any approach to the truth that public buildings, where there has been no public competition, reach a higher standard" than is reached by those erected from competitive designs.

AFTER all, one of the most patent weaknesses in the theory of direct selection lies in the impossibility of devising a way in which such selection may be made with unerring satisfaction to the public. The regularly elected public officials would resent and resist having their power of selection and appointment curtailed in the

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matter of the public buildings erected for their own use and occupancy, yet can anyone imagine it would be safe to entrust such discretionary powers to public officials of the regulation type? Has not New York, in the last few years, demonstrated clearly what type of architect would be likely to be favored by politicians? Even if such officials can be high-minded and intelligent, is it proper to allow them to gratify their private friendships and personal tastes by dealing with the public funds quite as if they belonged to themselves alone? Direct selection and personal commissioning may be allowable enough in the case of a picture or a statue, for, in the first place, the cost is to be but a few hundreds or a few thousands of dollars, and in the second place the article, in case of failure, is going to be small enough to be displaced and hidden. But with a public building the case is different, the cost is likely to run into the millions, and in case of failure it cannot be removed, but must flaunt its defects forever in the face of the public who had a right that the public funds should be used to procure only the best result that could be secured.

BUT while Mr. Collcutt believes in competitions and is glad that a competition is to be held for the new County Hall to be erected by the London County Council, he "learns with dismay" that this competition is to be open to architects of all nations; yet, though the terms of competition are somewhat unpalatable because of this catholicity of opportunity, he does not, *more Americano*, suggest to the leading architects that they should mutually agree not to submit designs and so do what they can to force on the city a design prepared by inferior talent. *The Architect*, however, calls his attention to the fact that, besides merely following the example set by the Peace Palace competition, upon which Mr. Collcutt was one of the jury, the recent Congress of Architects in London adopted a resolution recommending that international competitions should be held for just such important public buildings as the proposed County Hall, and remarks that "there is not much use in a congress passing resolutions without opposition if they are not accepted as final and binding."

GREATER NEW YORK'S attempts to procure designs for its public buildings, whether by direct selection or by competition, have been amusing, instructive and—very expensive, though those attempts which have proved abortive are not necessarily the most expensive. The latest development in the long series of architectural contretemps comes to light in the form of a bill for thirty-two thousand dollars, presented by Messrs. McKim, Mead & White, for the design for a Borough Hall for Brooklyn prepared by them at the request of Mr. Littleton, the Borough President, but for which no appropriation could be secured before his term of office expired. It will be remembered that only a few months ago the city was obliged to pay to Mr. Washington Hull fifteen thousand dollars on account of work done by him in preparation for the erection of the same building after his successful competitive design, and Mr. Hull, furthermore, and with a good deal of plausibility, contends that the contract made with him by the city still holds good, and that, owing to its peculiar wording, he must be paid a commission on the building that finally may be erected, no matter who designs it. These unsettled claims must, it would seem, give much food for thought to the architects who are now reported to have been selected by the present Borough President to prepare a design for this much-needed building. There is luck in odd numbers, and so, perhaps, the third official in the series and the third architectural firm may have better luck than their respective predecessors.

IN this connection it may be well to recall that, though two competitions have been held to secure designs for a new City Hall for New York itself, the first won by the late C. B. Atwood, and the second by the late J. R. Thomas, in both cases the "leading architects" of the city mutually agreed together not to submit designs, on the grounds that the programme did not entirely meet with their approbation, and if public opinion had been unable to secure the preservation of the present building, McComb's masterpiece, it would have been a piece of undeserved good fortune, so far as the architectural reputation of the city was concerned, that men of such real ability as Atwood and Thomas decided not to be influenced by the example of the objectors. In each case the competition, despite its organic imperfections, was from the public's point of view successful rather than the reverse. What direct selection is likely to accomplish in the hands of politicians of the usual type may be inferred from the character of the design lately prepared in this way for the Borough of Richmond, which happily failed to receive the approval of the Municipal Art Commission. It might be argued that it would be entirely safe to vest the power of direct selection in the hands of a sublimated Art Commission, and so it might be, for a year or two. But it is commonly agreed that the reason the present Art Commissions are doing such excellent work is that their members serve without pay, and so none but really right-minded and public-spirited citizens are willing to serve upon them. But just as soon as the machine politicians understood that the Art Commissions were to have the power to deal out building jobs they would, even though the law provided that such Commissions must serve without salary, fill such Boards with their own creatures and see that they made handsome livings indirectly through sharing in the illegitimate profits on contracts.

THE news that the southwest tower of St. Paul's Cathedral, London, is settling and is already some thirteen inches out of plumb is very disquieting, when taken in connection with the rather serious settling of the east end some two years ago. Not only is there possibility that serious damage may finally be done to this important building, but, as the subsidence is unquestionably due to the tunnelling for underground railways, done or doing, in its immediate vicinity, the movement shows how serious may be the effect on existing buildings of the subterranean tunnelings with which the site of every large city is likely to be honeycombed before the present century closes.

CENTERING FOR CONCRETE BUILDINGS.[1]

EVERY one at all conversant with the cost of reinforced-concrete work knows only too well the disproportionate amount due to centering. In very heavy foundation work this proportion may not be excessive, but in some buildings of reinforced concrete the labor cost of installing and removing the wooden false work, together with the cost of the material itself, has made up 50 per cent. of the entire expenditure. (For admirable cost reports on a reinforced-concrete bridge, see *Engineering News* of March 2, 1906.)

The cost of the centering material itself is heavy and, when wood is considered, is growing heavier almost month by month. This is due to the constant and rapid increase in the prices of timber and lumber of all kinds, which has taken place during the past few months.

The first plan which comes to mind, looking toward the economizing of centering material, is to make repeated use of each piece. This can readily be accomplished where a building is largely a repetition from floor to floor or from bay to bay. But unless the structure is very large, a considerable time is lost through the necessary delays experienced while waiting for the concrete to set before the centers can be removed. This is the case, however, only where the concrete is handled in a wet state.

Consideration of these points led to the adoption for a series of one-story buildings of the method already described, *i. e.* casting on the ground the columns, beams, girders and roof slabs and of erecting them as structural steel is handled. For the moulds for columns cast on one side only three pieces are needed in place of four, if the column is moulded vertically. This effects a saving of 25 per cent. for column centering material. Further, little or none of the costly bolting or bracing is needed when the concrete has a depth of but a few inches, as is all that is necessary if the columns are cast on the side. Another advantage found with these column forms, which is also shared by the beam and girder forms under this method, is the fact that the side boards can be removed after 24 or at the most 48 hours, and used again two or three times during the intervals in which they must be left in place if the work is done in the usual way. This alone effects a 50 per cent. saving of material, as only the narrow bottom pieces are needed in any great numbers. In the special buildings described a much greater saving was effected in the centering for the roof slabs in the following manner: The ground floor (which consisted of concrete) was installed as soon as the girders and beams had been erected. On this flat surface ordinary smooth paraffined building-paper was spread, and the roof slabs marked out by narrow strips of wood of a width just equal to the thickness of the desired slabs. The reinforcing rods were then placed as required, and the cinder concrete spread to fill the moulds. In this way the regular floor formed the major part of the slab moulds, and the cost of centering material in this instance was almost nothing. (The ground floor might better have been laid before the slabs were moulded, the roof slabs cast as above described and the large members set up on top of the slabs.) A further saving in this material was effected by this "dry" method of construction, through the obviating of the necessity of using the almost innumerable vertical supports which serve to uphold the centers when the whole floor or roof surface must be built up in wood so as to form moulds into which the wet concrete is poured. These various savings effected in the material for centering cut its cost, on the particular structure in question, to less than 25 per cent. of what it would have been had the other method been employed.

In another building in which the "wet" method was used a saving of centering material was effected in the following manner: It was deemed best in this particular building to erect brick walls. It was then suggested that the brickwork be built first and that proper recesses and flue-like openings be built into the walls. Thus by using much fewer boards these recesses could be transformed into moulds into which the wet concrete could be poured. This concrete could be properly reinforced for the columns for the support of the building. In a similar way the beams and girders which were designed to come wholly or in part within the walls had the brickwork so built as to form a part of the bottom and at least one side of the forms.

An indirect method of saving centering material is to devise methods whereby a lesser amount originally purchased can be used more times and thus reduce the relative cost. One such device was employed with marked success on several large buildings, and the floor moulds for all parts except the girders were good enough for the whole of another building after having been used six or seven times in the first one. Instead of making the moulds for the beams in the form of boxes open on the top, and providing thin, easily damaged mould boards for the slab bottoms, the idea was reversed and slab bottoms were combined with the beam side pieces so as to make a box with its open side downward. This box was supported on cleats fastened to the lower outside edges of the girder boxes. Besides indirectly saving centering material, these boxes readily lend themselves to use as cores to effect a material saving of concrete, as has been mentioned above.

The cost of timber for centering is advancing so rapidly that the use of other materials is coming into greater and greater prominence. The use made of the brick wall described above could as readily be adapted to walls made of concrete blocks, whether the latter were cast *in situ* or on the ground and hoisted and placed "in the dry." If the price of lumber advances much higher it will be possible to make core-boxes of sheet-metal instead of wood, but in all essential respects like those mentioned above. There are on the market several patented systems of moulding concrete walls with wet concrete by making use of small metal moulds. The great disadvantage with most of them is the small size of the moulds employed, which thus increase the labor incident to the placing of only small quantities of concrete at any one point. After an investigation of these systems a slightly different idea was worked out with regard to the column moulds. Column forms built in accordance with this idea were used very successfully on two large buildings. Cinder-concrete shells 1½ inch in thickness were cast in proper moulds. These shells were piled up and properly wedged into position and served as the moulds into which was poured the concrete for the columns. High carbon steel wire spirals were used for the column reinforcement and these spirals were worked into the cinder shells so that no extra reinforcing was needed after the shells were put in place. Sheet-iron, bent into drums of the proper dimensions for the columns, formed the outsides of the moulds for casting the cinder shells and it was found most economical to employ for the inside cylinder moulds expanded-metal lath. The sheet-iron for the outside mould gave the outside of the cinder cylinders a smooth exterior surface (when the concrete was properly tamped), while the metal lath was fine enough in texture to prevent the concrete from running through its meshes more than enough to provide a perfect bond between the cinder shell and the concrete matrix of the completed columns. The process of preparing the shells was as follows: A collapsible drum was constructed, upon which was first wound the wire for the reinforcement. Outside of this was wrapped the lath, which was then fastened to the wire reinforcement by wire clips in the same manner in which metal lath is fastened together and to ordinary metal studding. The wire-and-lath cylinders were then placed inside the sheet-metal moulds and cinder concrete tamped between, to form the cinder shell. The metal sheets were held in proper shape and position by light wooden frames, built to the necessary shape and so bolted as to be easily removed. These forms and the metal sheets used for the outsides of the moulds were removed after 24 hours and used for other moulds; the platforms on which the cinder shells were cast being the only parts which it was necessary to leave untouched for longer periods. In this way the costs for the moulds for the cinder shells were reduced to a minimum and, since the sheet-metal could be easily lapped to any extent, the same sheets served to make shells of all diameters, from the largest to the smallest, and were still available at the end of the job.

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(d).—They are capable of erection with comparatively unskilled labor.

(e).—They require forms for their manufacture which are of the simplest and, because of the possibility of repeated use, are of the cheapest construction.

(f).—Since round columns are the most efficient per square inch

[1] Extracts from a paper by Mr E. P. Goodrich, Am. Soc. C. E., read before a meeting of the Association of American Portland Cement Manufacturers.

of effective area, they provide the strongest column with a given area.

(g).—That portion of the concrete column which is not designed to carry any load is of poor quality material, thus making a column of slightly cheaper cost.

Turning now to the item of labor on the fabrication of centering, three points are potent in effecting economies:

(a).—Have as much work as possible done in regular shops so that considerable use can be made of machinery. By this means, too, piece-work can be employed with the resulting economies. For one building the core boxes described above were constructed in a planing mill and were delivered ready for erection. The wire-and-lath cylinders used in the cinder shells were similarly fabricated, and it is this same means which makes it possible to fabricate so cheaply the beam reinforcement in the somewhat complicated truss forms which are most effective.

(b).—Have as much work as possible so arranged that it can be executed by comparatively unskilled labor. The boxes described above were almost entirely handled and placed at the building by common labor, thus effecting a great economy over the usual methods, by which labor conditions required the employment of high-priced skilled labor for working wood.

(c).—Obviate as far as possible the use of the saw and the hammer. The first can be done by purchasing all material cut to sketch and by making it a cause of discharge to cut a piece of lumber. The hammer and nails should be replaced by bolts and a wrench.

The last item also goes far towards reducing the cost of removing the centering. Where the cinder shells were used there was no expenditure for removing column forms, and it was nearly a minimum where the "dry" method was employed. Of course, all builders use oil to coat the centers. A liberal use of this material greatly protects the wood against being damaged by its alternate wetting and drying. It also tends to give a good surface to the concrete, but best of all it largely reduces the costs of removing the centers.

Great care should be taken in the design of all centering, to make it as readily erected and removed as possible. It is believed that fully as much time can be profitably devoted in the office to the careful design of the centering for a job, as to the design of the reinforcement. At to the latter, it is believed that each beam and other member should be as carefully analyzed as are complicated plate girders. Regular strain-sheets should be prepared and preserved for record, and all elements carefully investigated. Another point for careful study in the office is that of reducing to a minimum the number of types of beam reinforcement to be used on a building. This item is even more important than in the design of structural steel work, where it is made a cardinal point. Reinforcement and centering should be made interchangeable from bay to bay and from floor to floor, as far as possible. Very often a design can be altered so that this can be effected with great economic advantage and with little or no loss of architectural or other feature.

Many of these points are only too obvious, but they have been included here in an endeavor to bring together as far as possible, in a short article, the most important points which tend toward economy, efficiency and excellence.

THE DEVELOPMENT OF IRON AND STEEL ROOF DESIGN.—II.

A TYPE of arched roof construction possessing distinct claims to recognition is that illustrated by the roofs of the Agricultural Hall and Olympia. At the time of its erection, in 1862, the Agricultural Hall had one of the largest roof spans in existence. The central arch measures 125 feet from centre to centre, and the two side arches are connected therewith, so that the whole forms a compound structure transmitting part of the thrust from the main arch through the side spans.

The roof of Olympia, designed by Mr. A. T. Walmisley, as joint engineer with Mr. Max am Ende, is worthy of special note, for the reason that the central span is an arch of greater width and height than is to be found in any other building in the metropolis, with the exception of St. Pancras station. The central span measures 179 feet between the columns, and the manner in which the horizontal thrust of the arch and the horizontal wind-pressure are taken up is distinctly novel. The whole of the gallery on each side acts as an abutment, and, as the columns are fitted with ball-and-socket joints at top and bottom, these members are always under axial load whatever may be the wind-pressure on the roof or the irregularity of the loads on the gallery at either side of the building. This roof was described in the *Builder* for 1887, where illustrations and full details of the construction will be found.

Arched roofs of great span like those at St. Pancras and some others which have been mentioned undoubtedly represent the safest form of construction, because their stability does not depend upon a single member, as in the case of trusses whose ends are held together by tension bars. By their adoption large spaces can be covered without intermediate supports, and for this reason such roofs are particularly suitable for large public halls. For railway stations they are far less suitable owing to the unnecessarily heavy cost and to the impossibility of providing in a suitable manner for the lateral extensions which are almost invariably required sooner or later, however large a station may be at the commencement.

To secure unobstructed space in railway stations at the lowest possible cost is a problem that has exercised engineers for many years past. In some of the earlier stations that were built small spans were employed with intermediate supports between the running tracks, the disadvantage of this practice being the obvious danger that the derailment of rolling-stock might displace one or more of the columns, and so bring down a considerable portion of the roof. Accidents of the kind have already occurred, and although the danger may not be very imminent in the case of terminal stations it is far more so at other stations through which trains pass at high speed.

As a compromise some stations have been built with roof spans of moderate width supported by intermediate columns in the middle of the platforms. Two examples of the kind are afforded by Broad Street and Liverpool Street stations.

Broad Street station, built in 1865, has roof principals which may be described as queen-post trusses surmounted by a cast-iron arched spandrel ridge. The station includes two roof spans of 95 feet, intermediate support being afforded by cast-iron columns, as represented in Fig. 9. The main rib is built up of wrought-iron structural sections; the tie-bar is of cylindrical section in eight lengths, the ends of which are forged out to form eyes. The struts are secured by pins to lugs on the main rib, and by bolts at the tie-bar, the diagonals being connected by means of pins, and attached to cast-iron fourway sockets at the points of intersection.

Fig. 10 is a diagram representing part of the older portion of Liverpool Street station roof, designed by the late Mr. Edward Wilson. This is an example of cantilever construction with spans of 109 feet between rows of columns rising from the platforms. The cantilevers are built up solid, and their extremities are connected by lattice girders. The subsequent extensions designed by Mr. John Wilson, the present engineer to the Great Eastern Railway, shows clearly that this method of construction lends itself very readily to enlargements required from time to time.

Another method of applying intermediate supports for a large railway station is illustrated by the old roof of Victoria station (London, Brighton & South Coast Railway), designed more than forty years ago by Mr. Jacob Hood, and now in course of replacement. Here, as shown in Fig. 11, continuous girders extend from one side to the other of the station, each with one intermediate column. These girders are 10 feet 9 inches deep and form two spans of 124 feet and 117 feet respectively, and carry 50-foot roof trusses of the queen-rod type, as represented in Fig. 11, which is a part longitudinal section. The use of girders in the manner described makes it possible to place supporting columns wherever they may be least inconvenient, and to carry out repairs or renewals at pleasure. Moreover, a station so built can be enlarged without demolishing any portion of the roof.

The Central station in Glasgow is spanned in a somewhat similar manner by seventeen deep latticed girders spanning the whole width from wall to wall, as shown in Fig. 12. The main girders are 213 feet 6 inches long by 20 feet deep, and carry ten ridge-and-furrow roofs, of 35-foot span, the ends of which rest upon the top flange of the main girders, so that the ridges are parallel with the longitudinal axis of the station.

There is a somewhat similar example at Derby, where the principals of the Midland Railway station are connected a little above the bottom flange of transverse girders. This arrangement has the advantage of shielding the greater part of the main girders from the deleterious gases given off by locomotive engines.

ALTERATIONS ON ACORN STREET, BOSTON, MASS.

Frank A. Bourne, Architect.

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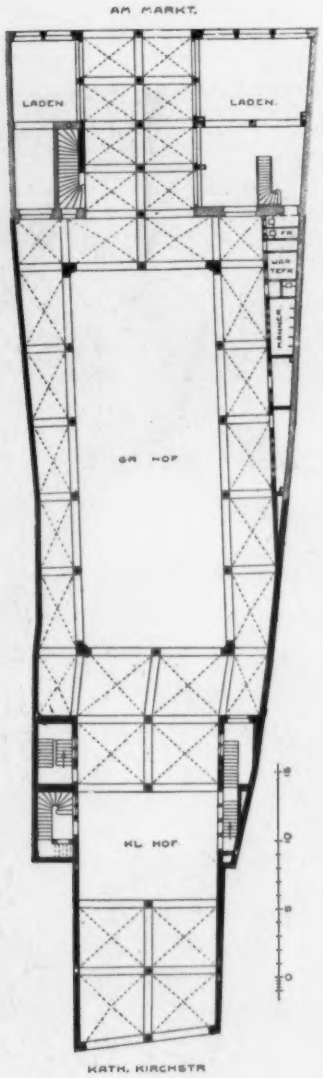
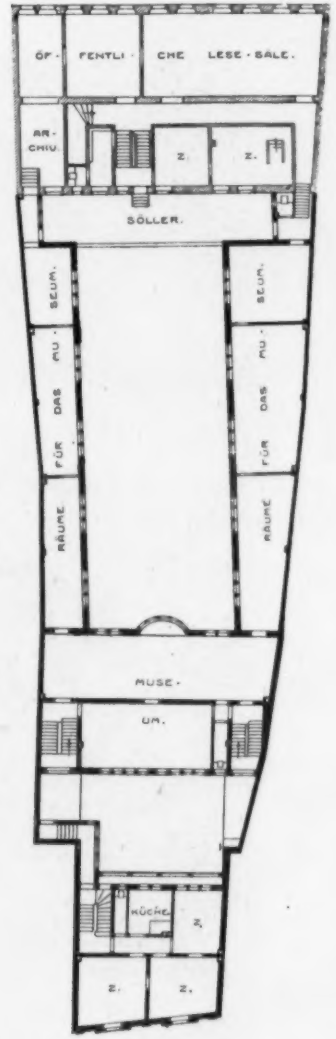


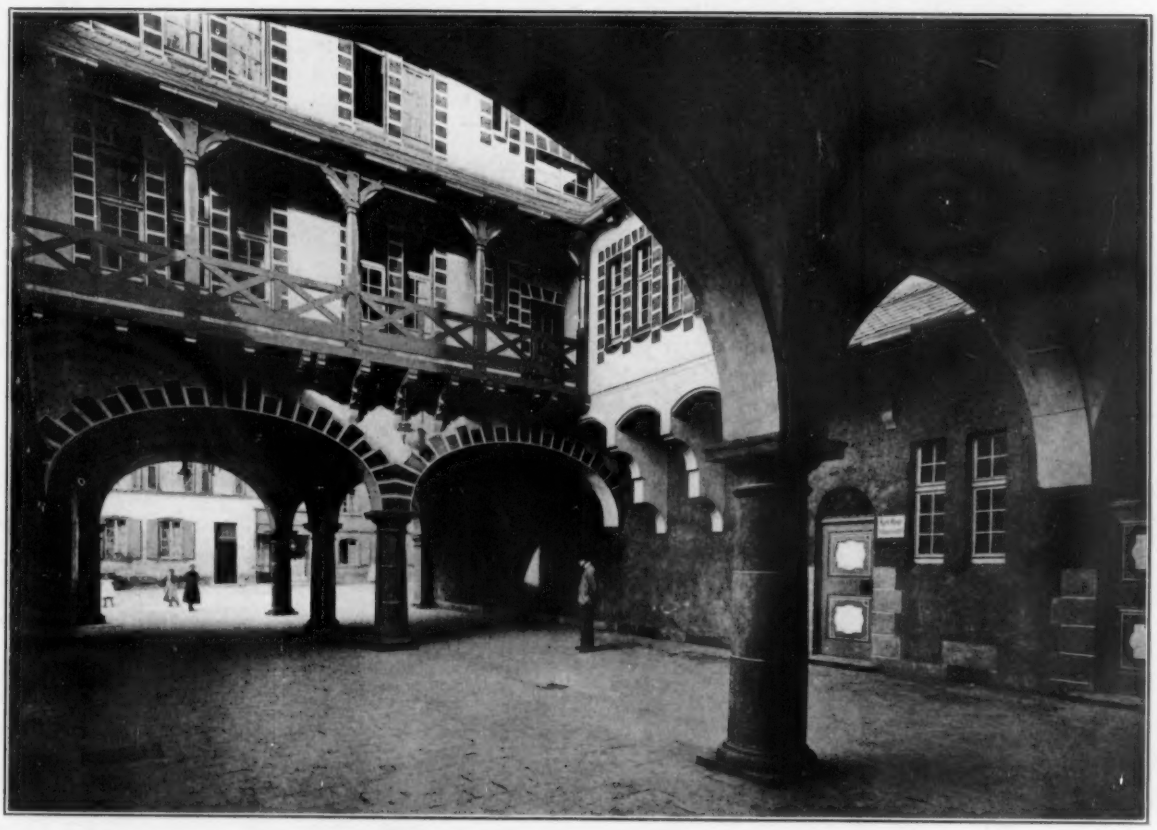
Erdgeschoss.

A RECONSTRUCTED THOROUGHFARE [*Strassendurchbruch*] SANCT JOHANN ON THE SAAR, PRUSSIA.

[From *Blätter für Architektur.*]



Obergeschoss.



A RECONSTRUCTED THOROUGHFARE [*Strassendurchbruch*], SANCT JOHANN ON THE SAAR, PRUSSIA.

[From *Blätter für Architektur.*]

HOUSE OF DR. FOLTZ, CHESTNUT HILL, PHILADELPHIA, PA.

G. T. Pearson, Architect.

HOUSE AT LYNN, MASS.

E. M. A. Machado, Architect.

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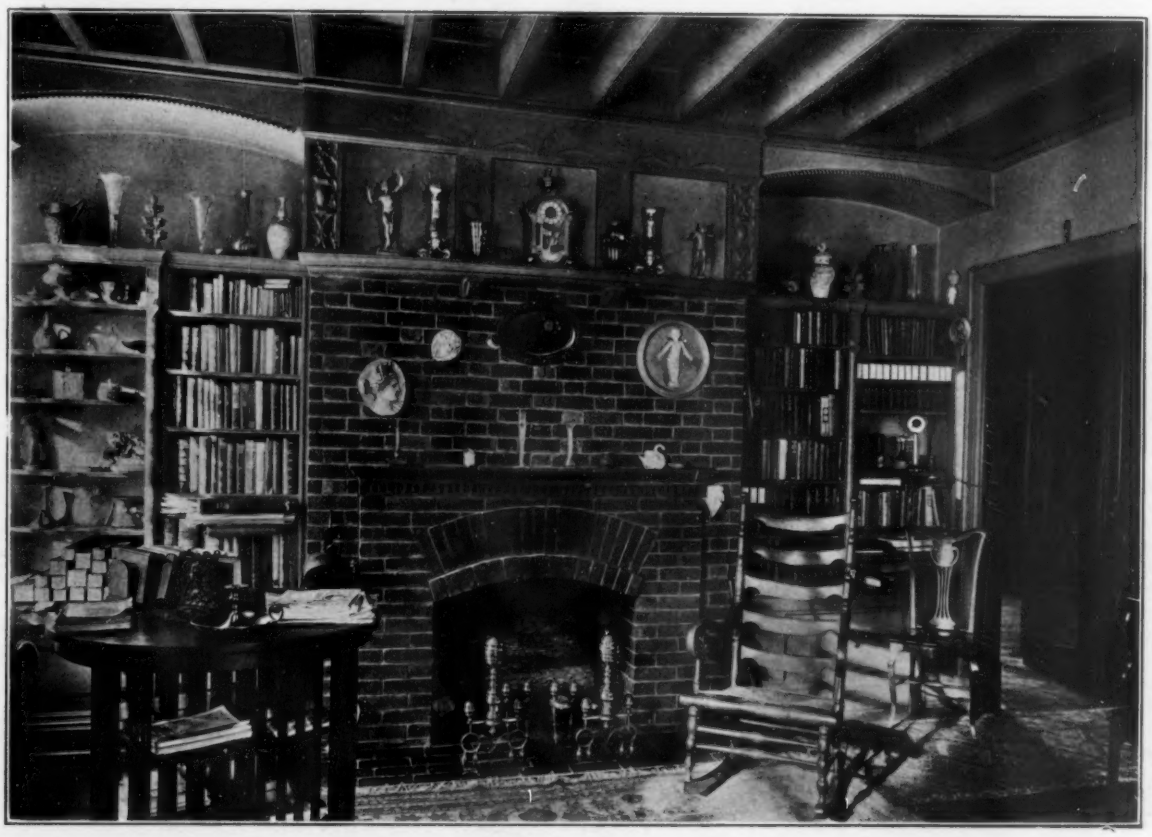

INTERIOR VIEWS: HOUSE OF DR. FOLTZ, CHESTNUT HILL, PHILADELPHIA, PA.

G. T. Pearson, Architect.

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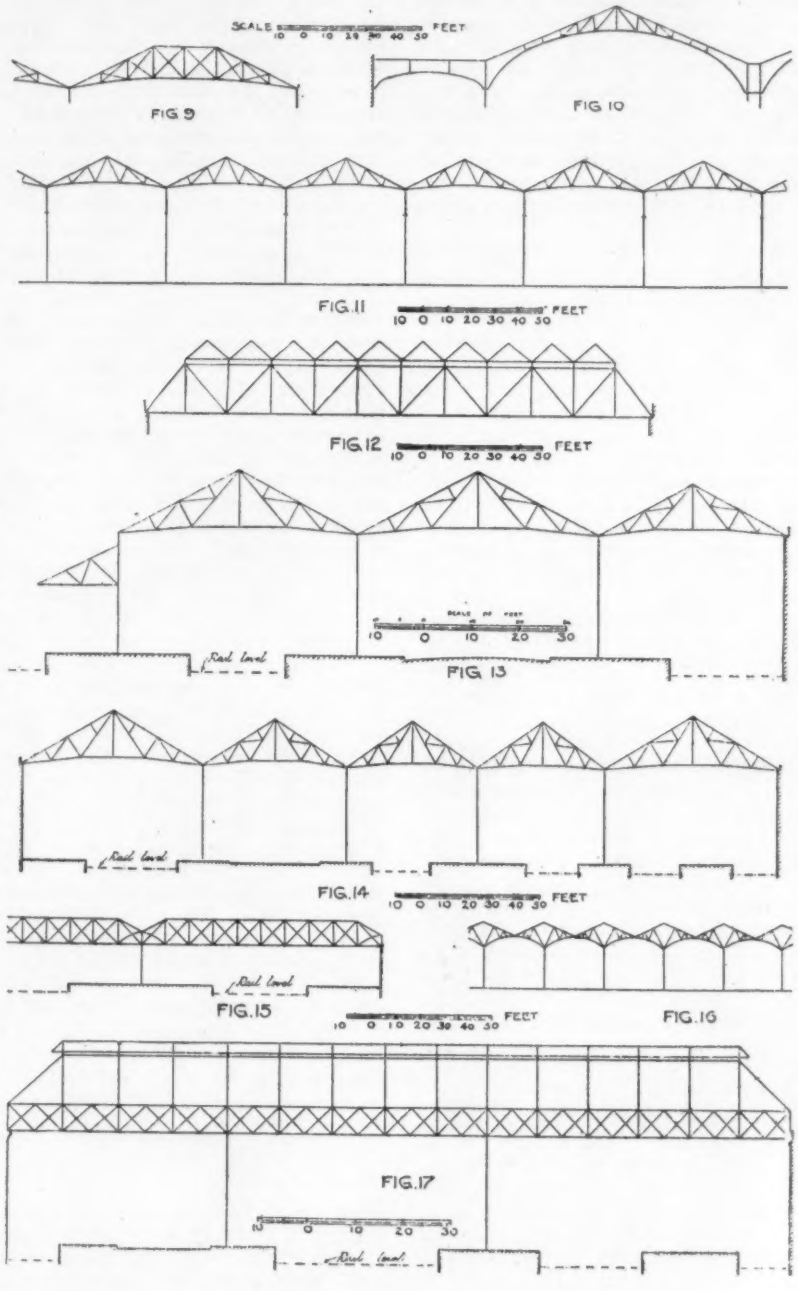
Among roofs of recent construction, that of Marylebone station is a good example. The platforms, lines and promenade are covered with light steel roofing carried by built-up stanchions and arched girders of the Linville type. The total width of the roof is 155 feet, made up, as shown in Fig. 13, of two trussed spans of 50 feet and 40 feet respectively and a 15-foot cantilever span. This roof is of unpretentious character, and, owing to the elegance of its construction and the absence of high walls, the station is one of the most cheerful and best lighted in the metropolis.

The new roof now being built from the designs of Mr. Chas. L. Morgan in connection with the extensive widening operations at Victoria station (London, Brighton & South Coast Railway), London, is an admirable illustration of sound engineering design, complying alike with the requirements of traffic and the safety of the public. The total width covered, from Buckingham Palace Road to the South-eastern & Chatham Railway, is about 320 feet, the roof being divided into five spans of varying width and height. The main principals are spaced 16 feet 8 inches apart; every third principal is carried on one of a series of cast-iron columns, spaced 59 feet apart; and the others on latticed girders connecting the columns, the latter being arranged along the centre lines of the platforms, where they are safe from accidental injury. A portion of the new roof is illustrated in Fig. 14, the dimensions of the chief members in the roof trusses being as stated below: The main rafters are formed of two 18-inch by 3-inch channel-bars; the main tie-bar consists of two 6-inch by 3-inch tee-bars in each side length and two 4½-inch by ½-inch flat bars in the centre length; in the bracing the struts consists of channel- and angle-bars of different dimensions, single or duplicate according to position; the ties are flat bars of different dimensions, single or duplicate, according to positions; and the vertical tie in the centre is a 1¼-inch diameter eye-bar, provided with a screwed turnbuckle for purposes of adjustment.



A design presenting features of decided novelty is that proposed by Mr. A. T. Walmisley for the new Marine station on the Admiralty Pier, Dover. Figs. 15 and 16 represent respectively part transverse and longitudinal sections of the roof. According to the scheme contemplated by the designer the station is to be 800 feet long by 200 feet wide, but these dimensions are not yet finally settled. Three rows of cast-iron columns, spaced 26 feet apart centre to centre, will carry the roof structure, the outer rows each supporting one end of the transverse lattice girders with the span of 100 feet, intended to meet at the centre row of columns placed in the middle of a platform 60 feet wide. These girders are 10 feet deep, and are divided by vertical struts into panels 10 feet wide, having a double system of diagonal ties. The height from rail level to the under side of the girders will be only 20 feet. The columns are continued above the bearings of the girders and incorporated into the ironwork of the double cantilever roof principals, which form 25-foot spans and somewhat resemble the cantilevers of the Forth Bridge in outline. The cantilever arms project 12 feet 6 inches, and their ends carry the roof gutters, which discharge through the centre rows of cast-iron columns. It is proposed that the seaward side of each roof ridge shall be covered with sheet copper laid over felt and boarding, and the other side by glazing. Timber has been selected for the purlins instead of iron, owing to its immunity from injury by the steam and gases emitted from locomotives, and for the same reason wrought-iron is specified instead of mild steel for the roof-work generally.

The three foregoing types of design are sufficient to demonstrate the reaction that has set in against roof spans of exceedingly large proportions, and the new roof designed by Mr. P. C. Tempest for Charing Cross will serve to emphasize the same characteristic.

The new covering for this station is shown diagrammatically by the cross section in Fig. 17, being designed on the ridge-and-furrow system, with ridges running at right angles across the station. The principals will be carried by latticed girders extending from side to side of the station, and these girders will be supported by the lowered side walls and by two lines of columns placed in the middle of the platforms. The total height of the roof will not be more than about 35 feet to 40 feet above rail level, and, owing to the reduced height of the side walls, abundant provision will be made for the admission of light, to say nothing of the other manifest advantages of the new structure.

The reason for adopting this type of design was that it will be possible to construct the transverse girders in such a way that the columns may be moved within reasonable limits to suit any rearrangement of the platforms that may become necessary, and thus to save any alteration to the structure of the roof in case

widenings should be undertaken on either side of the present station. At the same time the new roof will conduce to the safety of the public, give increased facilities for maintenance, and provide for the ready escape of steam and gases.

The development of iron and steel roof design on a large scale forms a most interesting study, which is naturally too extensive for adequate treatment in an article such as this. Those who wish to pursue it further will find abundant material in the *Proceedings* of the Institution of Civil Engineers and in the pages of various engineering publications, but for readers who have not an extensive library at command the most convenient source of information is Mr. Walmisley's well-known work on iron roofs, which describes and illustrates many such structures erected up to the year 1887, and from which we have prepared the diagrams of some of the earlier roofs mentioned in this article.

The most recent examples of construction serve to demonstrate the fact that the monumental roof is no longer thought to be a necessary feature. It is certain that the railway station of the future will be of far less pretentious character than heretofore, and at the same time less costly and better adapted to its intended purpose.

It seems probable, in fact, that the desire to reduce initial expenditure, to avoid the unnecessary risks attached to large spans of certain types, and the great cost of maintaining those of other types, and to obtain facilities for extensions required from time to time, will finally lead railway companies back to the practice of simply covering the platforms of their stations, leaving open spaces between the lines for the free escape of steam and smoke and for the ready admission of light and fresh air.

In justice to the designers of railway-station roofs, it must be pointed out that the fashion for ostentatious spans did not originate with them, but with traffic managers, who thought it desirable that the whole interior area should be absolutely unimpeded by column or interior supports. Fifty years of experience have served to dispel this notion, and we are now on the point of returning to the less ambitious ideal which possessed engineers in the early days of the railway system.

Important public buildings, of course, stand upon another footing, and naturally must be covered in a manner dictated by architectural requirements and the purposes to which they are destined. —*The Builder.*

TRAJAN'S COLUMN.

THE announcement that Professor Giacomo Boni has been able to complete his restoration of Trajan's Column in Rome must give satisfaction to archæologists. He was allowed to explore beneath the column partly in the hope that some relics of ancient art might have survived. It was recorded that the ashes of the emperor were placed in a golden vase and deposited in the earth on which the memorial was raised, while according to other accounts the globe in the hand of the statue contained them. Many centuries back efforts were made to obtain the vase, and the excavations then carried out did not add to the safety of the column. By means of the careful underpinning which Professor Boni has been able to perform the great work is now almost as secure as when it was originally completed in A. D., 114. Fifteen fragments of the large swags above the pedestal were recovered and refixed approximately. . . .

Like his predecessor, Trajan constructed a forum, and it must have been a magnificent work. According to one authority it had a roof of bronze. On two sides there was a double row of columns. The triumphal arch was at one end and the memorial column stood in the opposite extremity in an open space between two great libraries. Within the enclosure was a basilica. Professor Boni has revealed the foundations of the libraries, one of which it is believed mainly contained Latin manuscripts and the other Greek. The character of the shops and other buildings connected with the Forum has to be left to imagination. There was an abundance of gilded figures and an equestrian statue which was supposed to be inimitable by other emperors. Trajan's Forum must have been impressive, for, according to a legend, Gregory the Great obtained the deliverance of the emperor's soul from Purgatory through admiration for the place.

The column, which fortuntely has survived, is well known from engravings, and there is a cast of it at South Kensington. It is believed that the architect employed to design all the buildings in the Forum was Apollodorus, who, if reports are true, was murdered out of envy in the next reign by Hadrian. But although upheld by the authority of Dion Cassius, modern historians are doubtful of the truth of the latter allegation. We may therefore suppose that the column was designed by Apollodorus.

A column which fails to support something is illogical. In this case there was a bronze statue of the emperor over 20 feet in height. It was overthrown, and it is believed that some of the pieces of marble which Professor Boni recovered were broken from the pedestal while the figure was falling, or clumsily taken down. It was also resolved that, in addition to serving the purposes of a column, it should become an historical memorial by sculpturing the shaft with scenes from Trajan's contest with the Dacians. These people occupied districts near the Danube; and in Transylvania a plain where one of the battles was fought is still known as the Field of Trajan. It is believed they were Thracians, and they certainly were among the most troublesome enemies of the empire. Trajan had to undertake two expeditions against them before he could be assured that they were conquered.

It has been calculated that about 2,500 figures are represented in the spiral, exclusive of the boats, horses, military engines, trophies and other objects. Like the frieze and metopes of the Parthenon a great many sculptors were likely to have been employed on the work. But there can be no question the design came from one artist, who was likely to be Apollodorus. Care was taken to avoid degrading the figures of the Dacians, and if they corresponded with the representations they were well worthy to struggle for independence against Rome. With such evidence Byron was justified in assuming that the statue commonly called "The Dying Gladiator" represented a Dacian warrior. The figures gradually increase in size in proportion to the height. While they are 2 feet at the lower part of the shaft they are nearly 4 feet at the capital. The Romans of the Second Century must have had better eyes than the majority of present-day visitors, if they were able to make out details which were so closely packed. The whole of the figures have fortunately been engraved in De Rossi's book on the column. . . .

The column is of Roman Doric. The height has been variously estimated. It is generally supposed to be 97 feet without the pedestal and 115 feet with it. It is therefore about 20 feet higher than the York Column, but nearly corresponds in height with the column in the Place Vendôme in Paris. The shaft is said to consist of twenty-three blocks of white marble. Joseph Woods, who appears to have scrutinized the construction of the column, says that "in this case it appears that the Romans, instead of making a flat and horizontal joint, formed a variously and irregularly undulating surface on the one piece and cut the other to correspond with it, a laborious and difficult process, of which the object seems to be merely to hide the joint, for the strength of the column would not be increased by it." The diameter of the column at the base is 12 feet and at the summit 10 feet. The pedestal is adorned with representations of Dacian arms and other trophies. . . .

Inside the column is a winding staircase of 185 steps. There is some uncertainty as to whether the statue of Trajan remained perfect or whether there was left only a fragment of it when Pope Sixtus V. ordered Tommaso Della Porta to model the statue of St. Peter which now stands upon the column. It is an anomalous crowning for the memorial, and it fails of its effect, for as long as Rome endures the column will be known as Trajan's, unless in some fanatical outbreak it is reduced to dust.—*The Architect.*

THE PEACE PALACE COMPETITION.

IN his annual address, Mr. T. E. Collcutt, the new President of the Royal Institute of British Architects, made the following very plain-spoken comments on the outcome of the Peace Palace competition:

"I FEEL sure it will not be thought out of place, especially by our younger members, if I say a few words on the momentous question of public competitions. It has recently been suggested that, in competitions for buildings of any magnitude, the responsibility of selection becomes too onerous to be entrusted to one assessor, and that competitors would feel greater confidence in the judgment of two or more.

"I entirely disagree with this idea, and to illustrate my opinion I venture to remind you of the result of the competition for the proposed Peace Palace at The Hague. This competition, being of an international character, it was decided to invite six architects, representing various countries, to act as a jury of selection. Our Foreign Office requested the Institute to nominate an archi-

tect as representative of Great Britain, and our Council did me the honor to elect me to this post.

"During last April I met my brother assessors at The Hague, and we forthwith embarked on the work entrusted to us. Our committee consisted in all of seven assessors, the President of the Peace Congress acting as chairman, and voting with the six architect jurors. In my opinion, the combined efforts of the seven jurors resulted in disastrous failure.

"To my mind the design placed first in order of merit should not have been placed at all. The instructions to competitors issued by the Peace Committee stated the proposed limit of expenditure. Now, all the assessors agreed that the cost of carrying out the selected design would be no less than double the amount specified. Nevertheless, the jury decided by a bare majority that this design should receive the first premium in virtue of the excellence of its plan. It appeared to some of us that this plan possessed undoubted merits, but that these merits existed only because the designer had utterly ignored the limitation of the proposed expenditure. He would probably be obliged to remodel his plan in order to reduce the cost to a sum approximate to that at his disposal, and the special features that had attracted the assessors would thus be either eliminated altogether or else remodeled to such an extent as to lose the characteristics which had made them specially attractive.

"With regard to deciding what style of architecture would be most suitable for a monument of international peace and harmony, the majority of the jury inclined towards the Dutch style of the XVIth and XVIIth centuries. On the other hand, a minority was in favor of a style common in some degree to most European countries. This minority considered that an adaptation of Italian Renaissance would be more international in character and more suitable in every way than any treatment of Dutch architecture could possibly be. However, the wishes of the majority prevailed. In spite of this, the principal characteristics of the design finally chosen were those of a French château; but I venture to think that this style of architecture, as illustrated by the successful designer, is not quite appropriate to a public and international building.

"I have dealt fully, I fear even tediously, with this subject, because I think the result of the competition indicates that the question of assessors requires careful consideration. Should there be one assessor or a jury of several? My experience at The Hague leads me to the conviction that, when more than one assessor is appointed, an altogether futile conclusion is likely to be the consequence. In this case, as I have pointed out, we were six architects, with a layman as chairman. The result of our combined labor was the choice of a design which we all agreed could not be executed under double the amount quoted in the instructions to architects. The design chosen was crowded with picturesque towers, gables, and roofs, most of which were quite unnecessary. As a supplement to our Report we wrote a joint letter to the Permanent Committee wherein we advised that the future buildings should be monumental in character and without exuberance of ornament. We suggested that such extraneous features as towers, cupolas, etc., should be considered with the utmost reserve, and in this way our previous decision was completely stultified.

"I think I have shown that the final decision was a stupendous failure. It is probable that when more than one assessor is appointed the sense of individual responsibility is lessened. Perhaps each member of such a jury undertakes his arduous task with a feeling that the final result will be more or less in the nature of a compromise. In a jury of assessors there is also the possibility of a minority report, which may lead to difficulties with the employers, and perhaps to the abandonment of the awards.

"To my mind the ideal arrangement for deciding important competitions is the appointment of one chief assessor aided by one, or preferably by two, assistant advisers to whom he could turn for counsel or help. The assistants or assistant should have no voice in the ultimate decision; the entire responsibility should rest with the chief assessor.

"Although I am of opinion that The Hague competition was a failure, inasmuch as the best designs were overlooked, I do not wish to infer by this that I think competitions are a mistake, and that they fail to secure the best possible designs. On the contrary, I believe that it is to the interest of the public that a competition should be instituted for every proposed public building of importance. I do not deny that there may be many exceptions to this rule. The new Scotland Yard is a notable instance of such an exception; but the architect of that noble work stands by himself, as is recognized, I think, both by the public and by the architectural profession. It is said that buildings erected from competition designs fail more or less in reaching a high standard of architecture. There is, of course, a good deal of truth in this criticism, but I think it cannot be said with any approach to truth that public buildings where there has been no competition reach a higher standard.

"I think, in the interests of architecture, that every means should be taken to secure the best design possible, and, as a rule, this can be done by competition. Competition is also invaluable to the young architect for reasons beyond that of striving for a first prize; it gives him the opportunity of comparing his work with that of others and of taking home to himself, if he is modest, his weaknesses. Beyond this there is the chance of discovering genius which otherwise might strive in vain to make itself known."

ILLUSTRATIONS

STORE ON TENTH STREET, N. W., WASHINGTON, D. C. MESSRS. WOOD, DONN & DEMING, ARCHITECTS, WASHINGTON, D. C.—STABLE OF JAMES HENRY SMITH, ESQ., WEST FIFTY-FIFTH STREET, NEW YORK, N. Y. MESSRS. WARREN & WETMORE, ARCHITECTS, NEW YORK, N. Y.

HOUSE OF S. E. BUCHANAN, ESQ., 109 WILLOW STREET, BROOKLYN, N. Y. MESSRS. KIRBY, PETIT & GREEN, ARCHITECTS, NEW YORK, N. Y.

ALTERATIONS ON ACORN STREET, BOSTON, MASS. MR. FRANK A. BOURNE, ARCHITECT, BOSTON, MASS.

When, a quarter of a century ago, the "made land" of the Back Bay district was ready for use many old families who had been content to live in quietness in houses on the streets crossing the north and west slopes of Beacon Hill deserted their old houses for new ones built on the broader streets of the new territory. People of the same class shared their inclination and declined to fill up the houses left vacant and the owners had to seek tenants from less aristocratic classes. In this way the character of the population changed materially and a considerable portion of the territory was absorbed by negroes, while another portion was appropriated by stablemen and acquired the air of a series of London mews. Latterly, there has been a disposition to reclaim some of those streets, as bachelors found them very conveniently located with reference to the club-houses. Among others, Acorn Street, one of the shortest and narrowest streets in the city, has been retenanted by lawyers, architects, artists, and others who appreciate quiet respectability more than the garishness of "all modern improvements."

COTTAGE AT LANCASTER, MASS. MR. H. D. CARTER, ARCHITECT, CLINTON, MASS.—COTTAGE AT CLINTON, MASS. MR. HENRY FORBES BIGELOW, ARCHITECT, BOSTON, MASS.

HOUSE OF DR. FOLTZ, CHESTNUT HILL, PHILADELPHIA, PA. MR. G. T. PEARSON, ARCHITECT, PHILADELPHIA, PA.—HOUSE AT LYNN, MASS. MR. E. M. A. MACHADO, ARCHITECT, BOSTON, MASS.

INTERIORS IN HOUSE OF DR. FOLTZ, CHESTNUT HILL, PHILADELPHIA, PA. MR. G. T. PEARSON, ARCHITECT, PHILADELPHIA, PA.

A RECONSTRUCTED THOROUGHFARE [STRASSENDURCHBRUCH] SANCT JOHANN ON THE SAAR, PRUSSIA.

This plate is copied from *Blätter für Architekteur.*

Additional Illustrations in the International Edition.

TOMBS: PLATES 41-48.

NOTES AND CLIPPINGS

PARIS ABATTOIRS.—There are in Paris three principal abattoirs, the largest of which, La Vilette, is in the northern quarter of the city; Vaugirard, which was opened in 1898, and replaced the old slaughter-house of Grenelle; and Villejuif, where horses are slain for food. Any butcher may slaughter animals at these abattoirs on payment of a tax of 2 francs (40 cents) a hundred kilograms (220 pounds) on the meat so prepared. Butchers of the more important class and specially licensed are permitted to sell the meat which they have thus provided directly to the smaller dealers who keep retail meat stores throughout the city. Inspectors are in constant attendance, and any meat found infected with disease or otherwise unfit for food is saturated with petroleum and condemned. Prior to the year 1810 the butchers of Paris slaughtered animals in the streets and public squares, but at that time municipal slaughter-houses—"abattoirs"—were established where animals intended for human food are inspected and the whole process of slaughtering and disposal of the meat and offal are kept under official surveillance.

ELECTRIC POWER FOR MINNEAPOLIS.—One of the most extensive developments of electrical power in the United States, which will be ready for utilization by the first of December, is that at Taylor's Falls, on the St. Croix River, between Wisconsin and Minnesota. Here some eighteen months ago work was begun on a mammoth dam and electric power-house, where electricity might be generated for the Minneapolis market. This undertaking is now practically completed, at an expenditure of $3,500,000. Within a month the partial development, amounting to 12,000 horsepower of electrical energy, will be available in Minneapolis for manufacturing purposes. The ultimate development will render available between 25,000 and 30,000 horsepower. The advent of electricity as a manufacturing power opens up a great field for Minneapolis, especially when economy favors its use. Electricity generated at a distance by waterpower settles at once two great problems, those of fuel and of smoke. Before a bit of work could be done on the St. Croix, over a half million dollars had to be expended to secure flowage rights. Twenty-one miles of shore line on both sides of the river were bought, and to the ten miles of backwater formed by the new work may be added another eleven miles of pondage which has also been secured. To-day the plant consists of a completely equipped modern power-house and dam, and a transmission line 40.67 miles in length, which carries the current in almost a bee-line to the sub-station in northeast Minneapolis. The dam is of solid concrete 700 feet long, 50 feet high, 40 feet thick at the base, and 10 feet wide at the top. It is equipped with long sluices, a fishway, and a spillway, and will last practically forever. The dam extends diagonally across the river from the town of St. Croix Falls on the Wisconsin shore to a point above Taylor's Falls on the Minneapolis side. The huge power-house, also of solid concrete, is erected on a solid rock ledge on the Wisconsin side. A canal cut through the solid rock, 125 feet long and 50 feet wide, leads to the wheels, where an effective head of 55 feet is secured. Current will be generated at 2,300 volts, raised for transmission to 50,000 volts, at which voltage it will be received in the Minneapolis sub-station, and there transformed to a lower voltage for commercial use. This great increase in Minneapolis's power for manufacturing is expected to be a wonderful factor in the city's industrial development during the next few years.—*New York Evening Post.*

A MEDIÆVAL ACROSTIC.—At Pieve Terzagni is a church which belonged to a castle of Countess Matilda. The mosaic pavement, which may probably be of her period, is like a carpet, with twelve larger and six smaller medallions, in which are animals and a double-tailed syren. The apse is a step higher, and here behind the altar are the symbols of the Evangelists, a gryphon, a square with some pattern-work, and a portion of a figure beneath the arch, with an acrostic inscription, which is thought to refer

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R O T A S

to a certain Arepo or Erbo, whose portrait is just below, perhaps the priest of the place.—*The Builder.*

RESULTS OF GERMAN STATE INSURANCE.—The twenty-fifth anniversary of the late Prince Bismarck's announcement in the Reichstag that the Emperor was determined that the State should systematically assist the working people, male or female, by accident, sick and old age insurance, was commented on widely in the German press recently, which generally approved or disapproved the results, according to the political opinions of the commentators. The Socialists, following the policy which they adopted when the laws were passed, found fault with the insurance as being inadequate and not radical enough really to provide "for the casualties in the industrial warfare and the disabilities of those worn out in the service of capital." But the whole body of Liberal and Conservative opinion appeared convinced that the laws are beneficial. During the last twenty years $555,750,000 has been paid out for sickness, $232,750,000 for accidents and $13,500,000 for old age. The sum of $312,500 was expended daily on the combined objects, the total of the various funds is $375,000,000, the total amount paid in since the law was passed is $1,656,750,000, and sixty million persons have profited by this legislation.—*Boston Transcript.*

AMERICAN EPISCOPAL CATHEDRALS.—Buildings worthy the name cathedral have thus far been erected in only two dioceses. These are Albany and Long Island, the former the personal ambition of the first and only bishop the diocese has ever had, Right Rev. Dr. William Crosswell Doane, and the latter thrust upon Garden City through the schemes of the late A. T. Stewart to develop a land project. The Garden City Cathedral was erected with Stewart funds and has a modest endowment for its support. The most ambitious cathedral project in America is that of St. John the Divine, on Cathedral Heights, New York City. This structure is to cost $10,000,000 and to have $10,000,000 endowment. Bishop Potter was urged by the late Cornelius Vanderbilt to build a modest cathedral, to cost a million or so, and he is said to have offered the bishop the million needed. The bishop declined the offer, and then announced his intention to lay plans for a cathedral so large that his successor could not contract the lines and keep his reputation. San Francisco is rejoicing over the gift to the California Diocese of the whole block on Nob Hill formerly occupied by the Crocker mansions. It is one of the most commanding sites in the world, and will do a great deal to strengthen the Episcopal Church on the Pacific Coast. It is announced that the name to be selected will be Grace Cathedral, after the name of Grace Parish, which lost its church in the recent fire and is now to be merged into the cathedral foundation. There are four or five dioceses whose bishops affect the cathedral form and have modest buildings which are termed cathedrals. Among these are Fond du Lac, where the ritualist Bishop Grafton resides, Milwaukee, Omaha and Laramie, Wyo. There are some bishops who have what they call cathedrals and they maintain in part the staffs of cathedrals. Among these are Bishop Tuttle of Missouri, Bishop Woodcock of Kentucky, and Bishop Codman of Maine. Five see cities in America and two outside of it have definite cathedral projects on hand. One of these is Denver, where there used to be a cathedral, but it burned; and now on a new site, quite near to the Capitol, a new cathedral far surpassing the old one is to rise. A second is Cleveland and a third Memphis, in both of which fine structures are nearing completion. Boston has funds in sight large enough in amount to make a beginning of a cathedral foundation, and the plan of having such an establishment is everywhere received with satisfaction. Washington, the national capital, has a vast cathedral project on hand, the site of which has been selected and two cathedral schools founded and put in operation.—*Boston Transcript.*

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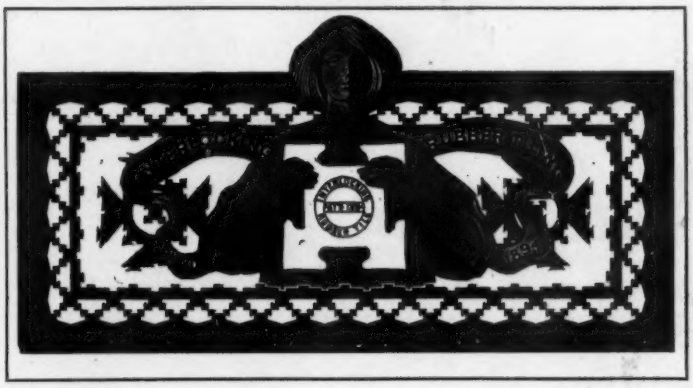

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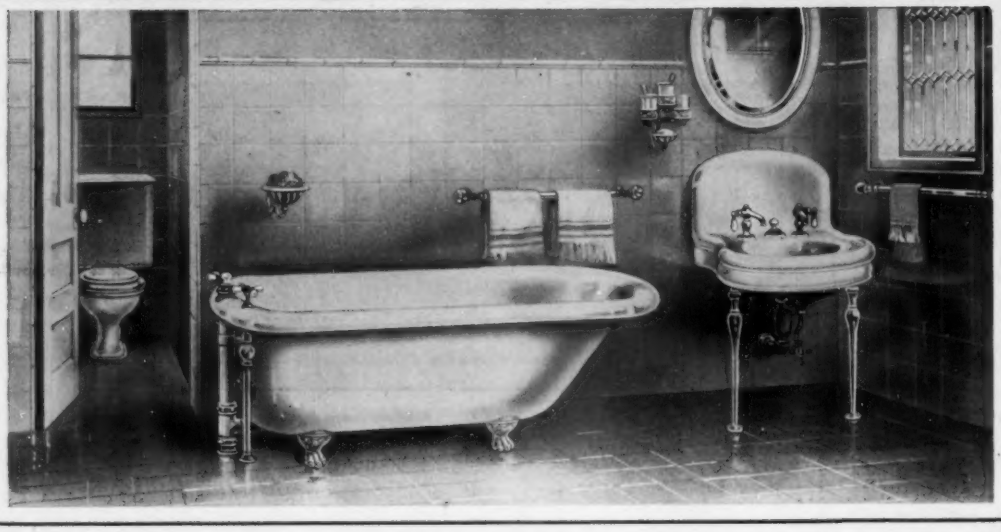
JOHNSON CREEK, WIS.—Architect Brielmaier & Sons, Milwaukee, have prepared plans for a brick church and school building to be erected at Johnson Creek for the Catholic congregation of that place. It will be 40x80 feet, stone foundation, and cut stone trimmings. Rev. Joseph Schroeder is pastor.

KALAMAZOO, MICH.—The citizens have voted in favor of issuing $75,000 bonds to erect a central fire station and sub-stations.

KANSAS CITY, MO.—C. A. Smith, architect Board of Education, is reported to be completing plans for the superstructure for the Westport High School.

Architect Jarvis Hunt, Monadnock Block, Chicago, has prepared plans and will probably take figures shortly on a terminal station to be built at Kansas City, Mo., for use of all the roads entering that city. It will be of steel and very likely paving brick, have all the latest improvements, and is estimated to cost $1,000,000 to $1,500,000.



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Hammond, Ind.—W. B. Conkey, it is reported, has secured a site at S. Hohman and Mason Streets, and will erect a $30,000 residence.

Harrisburg, Pa.—The Board of Trustees of the State Board of Charities has asked for an appropriation of $390,000 for the erection by the Pennsylvania State Hospital in this city of a building for acute cases, one for convalescents, one for dangerous patients, a home for the nurses for women, and an amusement hall and chapel combined.

Homestead, Pa.—The Baptist congregation, it is stated, has decided to erect a church in McClure Avenue, Cost, $40,000.

Hot Springs, Ark.—Reports state that the School Board will receive plans and specifications for the erection of a high school building. Cost, $100,000. George B. Cook is Superintendent.

Houston, Tex.—A union passenger station, it is reported, will be erected by the Houston Belt & Terminal Railway Company at an estimated cost of $1,500,000. C. E. Ensminger is engineer in charge, and M. S. Sweeney is general manager.

Jamaica Plain, Mass.—Plans are ready for figuring for a store and apartment block to be erected for F. B. Broderick, M.D., at the corner of Smith and Hall Streets, Jamaica Plain. The architects, Rantin & Son, have full charge of letting all contracts, buying material, and all communications should be addressed to them.

Jamestown, Va.—It has been concluded in the supervising architect's office to receive and consider bids for the erection complete of a life saving station at Jamestown, Va., at the same time that other bids for other government buildings at that point are opened.

Jersey City, N. J.—William H. McElfatrick, 1402 Broadway, New York, has been commissioned to design plans and specifications for a three-story fireproof theatre building, 100x125 feet, for the Jersey City Amusement Company, to be erected at Jersey City. No figures have yet been taken or contracts awarded.

Walter Kidde, 85 Liberty Street, New York, has prepared plans for John Mehl & Co., 128 Webster Avenue, Jersey City, for a four-story brick and reinforced concrete warehouse, 50x75 feet, at Hutton Street and New York Avenue, Jersey City.

Johnstown, Pa.—Reports state that Beezer Bros., architects, 6200 Pennsylvania Avenue, Pittsburg, have awarded the contract for the erection of a building for the Penn Traffic Company, to the Cramp Company, Twelfth and Chestnut Streets, Philadelphia. Estimated cost, $350,000.

Kokomo, Ind.—The Trustees of St. Patrick R. C. Church, it is stated, have ordered plans prepared for an edifice estimated to cost $50,000. Rev. Father Lordeman, Pastor.

Lake Charles, La.—It is stated that contracts will be awarded January 1, 1907, for the erection of an office building to be erected by the Lake Charles Realty Company, at a cost of $200,000.

Maginnis & Reimers, it is stated, have completed plans for a twelve-story opera house to be erected by Frank P. Flanigan.

Lawrenceville, Pa.—Press reports state that Y. M. C. A. has purchased a lot on Butler and Fortieth Streets, on which it proposes to erect a large building at an estimated cost of $126,000.

Leavenworth, Kan.—The Sisters of St. John's Hospital, it is stated, intend erecting at Broadway and Michigan Avenue a hospital to cost $100,000.

Leon, Ia.—A. S. Thorp, Clerk District Court, writes that it is proposed to erect a court house here, at a cost of $70,000. No architect selected yet. Address all communications to H. S. Scott, County Auditor.

Lewiston, Mont.—According to reports, the Lewis Company will erect a new court house at a cost of about $100,000.

Lexington, Ky.—The Directors of the Phœnix Hotel Company, according to reports, have accepted plans prepared by Richards, McCarty & Bulford, of Columbus, O., for the eight-story addition to the hotel. Cost to be about $300,000.

Liberty, Mo.—Bids have not yet been asked for erecting the library for Jewell College, for which E. J. Eckel, of St Joseph, is preparing plans; probable cost, $60,000.

Lincoln, Neb.—The Thompson Hotel Company is preparing to expend something like $60,000 in an annex to the Lincoln Hotel, at Ninth and P Streets, this city.

An engineering building is to be erected, according to reports, on the grounds of the University of Nebraska, to cost $100,000.

Little Rock, Ark.—The Board of Public Affairs, it is stated, has received bids for the erection of the proposed City Hall, to cost $175,000.

London, Ont., Can.—It is reported that Bethune & Fuchs, architects, 215 Franklin

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Street, Buffalo, N. Y., are preparing plans for a seven-story hotel, to cost $130,000, which is to be erected here.

LONG BEACH, CAL.—Austin & Brown, 201 Douglas Building, are architects for the new Bixby Hotel to be erected here, at an estimated cost of $400,000. The building will be of reinforced concrete and absolutely fireproof. It is to be of Spanish and Moorish architecture.

LONG BRANCH, N. J.—Reports state that the New York and New Jersey Telephone Company is contemplating the erection of a four-story building here, to cost $75,000.

LYNN, MASS.—It is reported that a high school building will be erected here at a cost of about $200,000. C. Neal Barney, Mayor.

MENOMINEE, MICH.—According to reports this city will expend about $50,000 for erecting a new City Hall.

MERIDIAN, MISS.—Plans are being considered by Scottish Rite Masons for the erection of a $100,000 cathedral. Frederick Speed, Chairman Executive Committee.

MEXICO CITY, MEX.—Reports state that a building association has been formed for the purpose of erecting a temple for the Masons of this city. The building to be erected opposite the Department of Communications, and the estimated cost to be $200,000.

MILWAUKEE, WIS.—It is stated that Kirchoff & Rose, 201 Grand Avenue, expect to have plans ready early in December for the Majestic Theatre, which is to be erected by Schlitz Brewing Company, at Grand Avenue and Second Street, at a cost of about $700,000. The plans are to be for a seven-story building, the upper floors to be used for offices or hotel purposes.

Plans have been prepared by Architects Leenhouts & Guthrie, 102 Wisconsin Street, for the erection of a church for the Grand Avenue Methodist Episcopal congregation. Cost, $80,000.

It is stated that B. Leidersdorf is preparing to erect a five-story business building on East Water Street.

Skobis Bros. have been awarded the contract for the structural iron work on the $140,000 brick store building to be erected by Edward Schuster & Co., at Third Street and Garfield Avenue.

Press reports state that Kroeger Bros. have purchased a lot adjoining their department store at National and First Avenues, and will have plans prepared for a large addition of steel construction.

MINNEAPOLIS, MINN.—The directors of the Y. M. C. A. will erect a $75,000 building for the boys' department. E. C. Garigues and E. W. Decker are interested.

The Washburn Company is having plans prepared by Edwin H. Hewett, architect, 716 Fourth Avenue S., for the new steel plant to be erected near Thirty-fourth Street and Hiawatha Avenue. The cost of the proposed work will be about $250,000.

A foundry, it is reported, will be erected by the United States Furnace and Foundry Company. Cost, about $1,000,000.

The General Electric Company is preparing to erect a sub-station to cost $100,000 to $150,000. It will be built next year.

MOBILE, ALA.—Reports state that the contract for the erection of a hotel for Andrew

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Dacovich will be let in February. Benz & Sons, Masonic Building, architects. Cost, $200,000.

Montreal, Que., Can.—The Rubber Tire Wheel Company is having plans prepared for a 113x58-foot brick garage, work on which will be commenced this fall.

John J. Browne & Sons are reported to have prepared plans for a ten-story building to be erected at St. Catherine and Drummond Streets for Willis & Co.

Muscatine, Ia.—Press reports state that plans are being prepared for the new federal building, on which it is expected to start work in the spring.

Muskogee, I. T.—W. B. Higgs & Co., it is stated, have been granted a permit to erect a ten-story building at Fifteenth Street and New York Avenue, at an estimated cost of $208,000. Bruce, Price & de Sibour are the architects.

Nashville, Tenn.—The erection of a high school, to cost $300,000, is reported under consideration.

Newark, N. J.—Press reports state that the Common Council has passed a resolution to erect a new City Hall, to cost $300,000.

New Haven, Conn.—The erection of a sixteen-room school, to cost $80,000, is reported under consideration.

Messrs. Schwartz & Gross and B. N. Marcus, associated, 35 West Twenty-first Street, Manhattan, have just been commissioned to prepare plans for a fine colonial residence, 52x62 feet, to be erected at Whitney Avenue and Conner Street, New Haven, for Martin Simons, of Bruce Avenue, Yonkers, N. Y. The cost is placed at $35,000. Figures will be received from the architects' New York office, and also at New Haven. No building contracts have yet been issued.

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Architect Cass Gilbert, of New York, has been commissioned by the New York, New Haven & Hartford Railroad Company to draw plans for the proposed million-dollar railroad station, which will be erected in this city, and work upon the foundations of which will probably be commenced before the 1st of January.

The Consolidated Railway Company, it is stated, will erect a large trolley depot at Chapel and Union Streets at a cost of $500,000. J. K. Punderford is general manager.

New London, Conn.—The Common Council has passed a resolution authorizing an appropriation of $75,000, for the erection of a school in the Harbor district.

New Orleans, La.—It is reported that a four-story Pythian temple, 62x106 feet, of pressed brick, will be erected at a cost of $50,000 by the colored Pythians; local head quarters, 1116 Perdido Street.

It is reported that the Police and Public Building Committee has decided to erect a $200,000 annex to the City Hall.

Newton, Mass.—Plans are well under way for the school house to be built at Nonantum, Newton, Mass. Ripley & Russell, 8 Beacon Street, Boston, are the architects. Cost in the neighborhood of $100,000.

New York, N. Y.—Plans have been completed by Horace Trumbauer, Philadelphia, Pa., for the large addition which is to be erected to the World Building, owned by Joseph Pulitzer. The new building will be erected on William and Frankfort Streets, and will be thirteen stories high, and match the present structure. Cost of the addition will be about $1,000,000.

Architects Neville & Bagge, 217 West One Hundred and Twenty-fifth Street, have prepared plans for an apartment house to be erected on the southeast corner of Broadway and One Hundred and Forty-third Street, for S. M. Silverman & Son, 1448 Madison Avenue. The building will be six stories high, and contain thirty-nine apartments. It will be built of brick and stone, and have the latest improvements. Cost

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will be about $175,000, and owners will superintend and buy all material.

Samuel Trood, 616 West One Hundred and Thirty-seventh Street, has had plans prepared by Architect Louis C. Maurer, 22 East Twenty-first Street, for the large apartment house, which he will build on the southeast corner of Riverside Drive and One Hundred and Thirty-eighth Street, at an estimated cost of $300,000. The building will be twelve stories high, of brick, stone, and iron, fireproof, and will have steam heating, electric lighting, elevator, tile and mosaic work, and all improvements and appliances for thirty-one apartments. Work to be started soon.

Work will soon be started on the large new apartment house, which is to be built at the northeast corner of Riverside Drive and Ninety-fifth Street for the George W. Levy Building Company, from plans by Architects Schwartz & Gross, 35 West Twenty-first Street. Plans provide for a six-story building, measuring 108x163, to cost about $300,000. It will be built of brick, stone, and iron, and will have all modern appliances, including steam heat, electric light, elevator, etc.

Plans have been prepared by Architect C. A. Millner, 3025 Third Avenue, for the erection of two flat buildings on the north side of One Hundred and Fiftieth Street, 180 feet east of Park Avenue, for Marrazzi & La Spina, 2123 First Avenue. Cost, $120,000.

Figures are now being received by Edwin Rossbach, 1947 Broadway, for the ten-story office and store building which Butler Davenport, 66 West Thirty-eighth Street, will build on the south side of Sixty-third Street, 148.4 feet east of Broadway, to cost $100,000.

The Municipal Art Committee, it is stated, has approved the plans of Architects Parish & Schroeder, 5 West Thirty-first Street, for the erection of the new brick Bellevue Hospital Training School for Women Nurses. It will front the East River, between Twenty-fifth and Twenty-sixth Streets, south of Bellevue. Cost, about $650,000.

Kirby, Petit & Green, 35 West Thirty-first Street, are now taking figures on the fireproof four-story and basement office-building for the American Bank Note Co., 78 Trinity Place, to be erected at 70-72 Broad Street.

G. B. Seely's Sons will build a five-story factory, 50x150, at Nos. 329-331 West Fifteenth Street. It will extend over the rear lots at Nos. 325-327. The cost is placed at $60,000 by Architect H. Chapman, who filed the plans.

Architects Schwartz & Schwartz are drawing plans for two six-story elevator flats, 200x100, which will be built on the Hudson Realty Company's block, between One Hundred and Fifty-eighth and One Hundred and Fifty-ninth Streets, along the east side of Broadway. The structures will cost $350,000.

Oscar Lowinson, architect, 18 East Forty-second Street, is to prepare plans for the sixteen-story store and office building to be erected on the site of the Lotus Club, at a cost of $700,000.

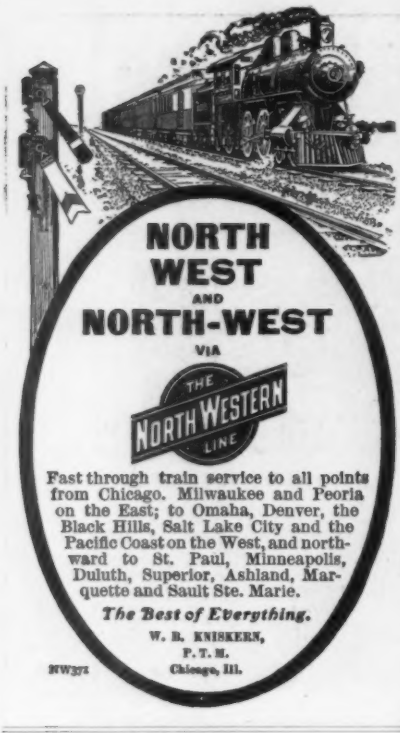
Plans have been completed by Architects George B. Post & Son, 33 East Seventeenth Street, for a dwelling house to be erected at 113 East Seventy-third Street for E. K. Train, 28 West Forty-seventh Street. It will be a six-story structure, measuring 25x83 feet, and will be built of brick and stone, finished in hardwood and provided with the latest appliances and improvements in all lines. Cost will be about $45,000.

Plans have been prepared, it is stated, by Schickel & Ditmars, 111 Fifth Avenue, for the erection of the building at Edgecomb Avenue and One Hundred and Sixty-fourth Street for the Washington Heights branch of St. Vincent Hospitals. Cost, $150,000.

The German-American Insurance Company, No. 35 Nassau Street, has purchased the plot containing about 900 square feet at the junction of Maiden Lane and Liberty Street, and will erect on the entire block bounded by Liberty Street, Maiden Lane, and William Street, excepting the Wolfe Building, facing William Street, a sixteen-story office-building, for the occupancy of the company.

Bids are asked until 11 A. M., December 3, by C. B. J. Snyder, Superintendent of School Buildings, Department of Education, for construction of Public School 17 at Forty-seventh and Forty-eighth Streets, near Eighth Avenue, Borough of Manhattan.

The George A. Fuller Company, Flatiron Building, has been awarded the contract for the erection of the new building for the Consolidated Stock Exchange, at Broad and Beaver Streets, at a cost of $275,000. It is to be four stories high, 99x126 feet. Clinton & Russell, 32 Nassau Street, are architects.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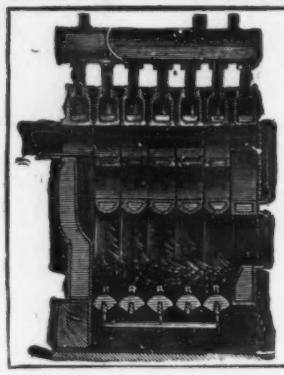

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Oshkosh, Wis.—Press reports state that plans are being prepared for the erection of a new edifice for the First Congregational Church. Cost, $75,000. Address Rev. E. H. Smith, Pastor.

Ottawa, Ont., Can.—The Bank of Montreal will erect soon at Sommerset and Bank Streets a six-story stone building.

Oxford, O.—Gustave W. Drach, Union Trust Building, Cincinnati, is preparing plans for an auditorium for Miami University, to cost about $60,000. Bids will probably be called for in about five weeks.

Philadelphia, Pa.—J. H. Windrim, architect, Commonwealth Building, is preparing plans for a twelve-story brick, steel, and concrete office building to be erected by the Girard Estate at Fifth and Chestnut Streets at a cost of $1,000,000. It is to be of fireproof construction.

The Union Republican Club is contemplating the erection of a handsome new club house, which will probably be located at 221-225 South Broad Street. The club will have plans prepared by one or two prominent architects, and so far no details have been decided on.

The Bell Telephone Company, Seventeenth and Filbert Streets, will have plans prepared for ten-story brick, concrete, and steel office building. Estimated cost, $500,000. Power plant will be installed.

Bids for erecting three elementary schools and for additions to three other schools, it is stated, will be asked by the Board of Education, probably this month. The aggregate cost is to be about $320,000; according to reports bids will be asked first on the six division school, which is to replace the Astenville School.

Pittsburg, Pa.—Thos. Reilly, of Philadelphia, it is reported, has secured the contract to erect St. Francis Hospital at about $125,000.

St. Rosalia's Catholic parish, of Greenfield Avenue, it is stated, is planning to erect a new edifice on the present plot, to cost $50,000 and be of brick and stone construction.

The Pittsburg Gage and Supply Company will erect a six-story, 143x154-foot building at a cost of $250,000 to be erected at Liberty Avenue and Thirtieth Street. The William Glyde Wilkins Company designed the building. It is to be a fireproof, brick and steel building. The George M. Hogg Co., of Braddock, has the contract.

Architect Thomas Hannah, Diamond Bank Building, Pittsburg, Pa., has plans for a four-story brick store building which Thomas J. Keenan will erect at Liberty Avenue and Seventh Street. Cost, $60,000.

The Union Trust Company, it is stated, has purchased a large site at Wood and Diamond Streets, upon which it will erect a large banking building.

Plans have been prepared by Architect J. P. Bailey, Times Building, 336 Fourth Avenue, for the erction of a residence. Cost, $50,000.

Playa del Ray, Cal.—Plans are being prepared for the erection of a hotel and bath house. It is intended by the Los Angeles Pacific Railway Company to spend $200,000 in improvements. G. J. Kuhrts, Chief Engineer, Los Angeles.

Port Edwards, Wis.—Architect Anton Billmyer, of Grand Rapids, Wis., has prepared plans for a twenty-six room hotel to be built here.

Portland, Ore.—Richard Martin, Jr., De Kum Building, is reported to be preparing plans for a plant to be erected at Third and Glisan Streets, for the Hazelwood Creamery Company, at a cost of about $100,000.

W. H. Markell will erect a two- or three-story brick and steel frame building at Morrison Street and Union Avenue, at a cost of $100,000.

Rothchild Bros. are to erect a seven-story steel building at Fourth and Washington Streets, at a cost of $125,000. Whidden & Lewis, 47 Concord Building, are architects.

Roanoke, Va.—Plans are being prepared by H. M. Miller, of Roanoke, for a hotel, which, it is stated, is to be erected by Max Goldberg; cost, $50,000.

James McNamara, Rock Island, Ill., has had plans prepared and will take figures on a residence to be built at the corner of Nineteenth Street and Fourth Avenue, Rock Island, for himself. It will be three-story, 60x80 feet, have pressed brick and stone exterior, gravel roof, various kinds of hardwood finish, steam heat, marble and tile work in vestibule and bathrooms, wiring for electric light, all modern improvements, and cost $60,000.

Rochester, N. Y.—It is reported that the Rochester Hotel Corporation has been incorporated for the purpose of erecting a $1,000,000 hotel in this city. Plans are being prepared.

It is reported that plans are being prepared for the new Grace Methodist Episcopal Church, at Driving Park Avenue and Thorn Street. Cost, $60,000. Rev. E. Shepard is pastor.

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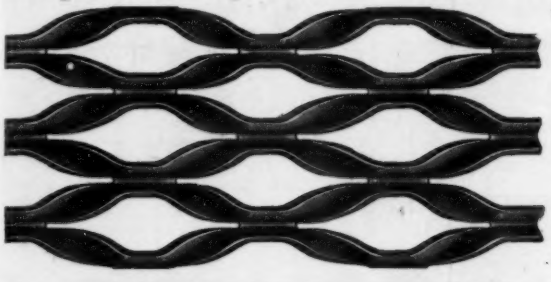

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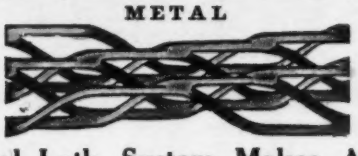
METAL **Truss**  **Lath**

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RUTLAND, VT.—Reports state that St. Peter's Parish will divide and erect a new church and parish house on Main Street. No plans for the new church have been prepared.

St. Augustine Roman Catholic congregation will erect an edifice at Chili Avenue and Hobart Street, at a cost of $30,000. Rev. John H. O'Brien, rector; Joseph Oberliess, architect.

ST. JOSEPH, MO.—Reports state that the city has voted affirmatively the proposed $300,000 building bonds. Address The Mayor.

The Buchanan Hotel Company, it is stated, will erect a $300,000 hotel here. The building will be 140x160 feet and will have 200 rooms.

E. J. Eckel, Commercial Building, is reported to be preparing plans for an eight-story fireproof office building, to be erected by Francis & Gisher.

It is stated that Block Bros. are arranging to erect a five-story business building.

ST. LOUIS, MO.—F. C. Bonsack, Eighth and Locust Streets, it is reported, has been commissioned to prepare plans for a $1,000,000 theatre and hotel which John J. Ryan, of Cincinnati, O., intends erecting at Sixth and Market Streets.

F. C. Bonsack, Eighth and Locust Streets, is reported to have prepared plans for the coliseum which it is proposed erecting at a cost of about $200,000.

Alfred B. Grocea is said to be preparing plans for an $85,000 edifice to be erected by the members of the Union Avenue Christian Church. F. E. Udell, Chairman Building Committee.

Plans have been prepared by Architects Dreschler & Elsner, 105 North Seventh Street, it is stated, for the erection of a four-story hotel. Cost, $60,000.

Plans are being prepared by Architect George H. Kennerly, 607 Benoist Building, for the erection of a store and apartment building, 132x120 feet, at Vernon and Union Avenues. Cost, $70,000.

Reports state that a $60,000 business building will be erected by P. J. Cunningham, 1000 Locust Street.

Plans have been prepared by E. P. Maule, Jr., Chemical Building, for the erection of an apartment building, 106x175 feet, for J. H. Beckwith. Cost, $80,000.

It is reported that plans have been received by the president of the Board of Public Affairs for additions to the city insane asylum. Cost, $900,000.

Plans for the erection of a new church for the Saint Mark's German Evangelical congregation have been completed. Cost, about $64,500. Rev. E. H. Eilts, pastor.

ST. PAUL, MINN.—Plans have been prepared by Architects Thori, Alban & Fisher, 508 Chamber of Commerce Building, for the erection of the new First Methodist Church, on Victoria and Portland Avenue. Cost, $50,000.

Plans have been prepared by the Northwestern Furniture Exposition Association for the erection of a three-story building, 200x150 feet. Cost, $50,000.

SAN ANTONIO, TEX.—G. Bedell Moore will erect a five-story addition to the Moore Bldg. at a cost of $100,000. Atlee B. Ayres, 228 West Commerce St., is architect.

Reports state that a new edifice is to be erected for the First Presbyterian Church, on Martin and Navarro Streets, to cost about $50,000.

STAMFORD, CONN.—Reports state that tentative plans have been drawn by Wm. Dewsnap, Architect, 150 Nassau Street, New York, for a three-story brick Y. M. C. A. building, to be erected here at a cost of $100,000.

It is reported that a lime and cement plant will be erected on the land donated by the Commercial Club, situated about two miles south of the city limits, by Colonel Myer. Cost, about $100,000.

STANFORD, TEX.—The Stanford Collegiate Institute, it is reported, will erect a $50,000 college building. Address P. B. Evans.

SUMMIT, PA.—The contract to erect a hotel for the Summit Hotel Company is reported awarded to Hugh Burchinal, of Uniontown. Probable cost, $470,000.

TOLEDO, O.—Plans are being prepared by Architect Arland W. Johnson, 708-711 Spitzer Building, and will receive bids in about a month for the erection of a $300,000 "White City." About twenty buildings, including a theatre, will be built. Z. Z. Brandon, Spitzer Building, is at the head of the enterprise.

Pfaender Brothers, Michigan Street, have been awarded the contract to erect a $30,000 residence for Ferdinand Welsh, plans for which were made by Architect E. O. Fallis, of this city. M.

Architect George Mills, Gardner Building, is completing plans for the reinforced building the Bostwick-Braun Hardware Company will erect at the foot of Summit Street at a cost of $400,000. Contracts are to be awarded soon. M.

UTICA, N. Y.—J. A. Cantwell, City Clerk, writes that the citizens have voted to issue $150,000 bonds for the erection of a school.

VALLEY CITY, N. D.—Sealed bids will be received up to 2 P.M., December 17, 1906, at the office of Thomas Keough, at Valley City, N. D., for erecting an hotel building on plans by J. W. Ross, architect. All bids to be addressed to Rudolph Giselius, Valley City.

WATERLOO, IA.—Plans are being prepared by Architects Proudfoot & Bird, Des Moines, for the addition to the Syndicate Building, for an opera house, to be of brick and stone construction, with a seating capacity of 1,800. Cost, $55,000.

YOUNGSTOWN, N. Y.—A. J. Servis & Son, of this city, have been awarded the contract to erect the several buildings at Fort Niagara; their bid was about $150,000.

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